Entrez Nucleotide

1: AB011095. Homo sapiens mRNA...[gi:3043569] Links

```
LOCUS       AB011095                5172 bp    mRNA    linear   PRI 10-APR-1998
DEFINITION  Homo sapiens mRNA for KIAA0523 protein, partial cds.
ACCESSION   AB011095
VERSION     AB011095.1  GI:3043569
KEYWORDS    KIAA0523 protein.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (sites)
  AUTHORS   Nagase,T., Ishikawa,K., Miyajima,N., Tanaka,A., Kotani,H.,
            Nomura,N. and Ohara,O.
  TITLE     Prediction of the coding sequences of unidentified human genes. IX.
            The complete sequences of 100 new cDNA clones from brain which can
            code for large proteins in vitro
  JOURNAL   DNA Res. 5 (1), 31-39 (1998)
  MEDLINE   98290545
   PUBMED   9628581
REFERENCE   2  (bases 1 to 5172)
  AUTHORS   Ohara,O., Nagase,T. and Ishikawa,K.
  TITLE     Direct Submission
  JOURNAL   Submitted (13-FEB-1998) Osamu Ohara, Kazusa DNA Research Institute,
            DNA Technology; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan
            (E-mail:cdnainfo@kazusa.or.jp, Tel:+81-438-52-3913,
            Fax:+81-438-52-3914)
FEATURES             Location/Qualifiers
     source          1..5172
                     /organism="Homo sapiens"
                     /mol_type="mRNA"
                     /db_xref="taxon:9606"
                     /clone="HG1394"
                     /sex="male"
                     /tissue_type="brain"
                     /clone_lib="pBluescriptII SK plus"
     gene            1..5172
                     /gene="KIAA0523"
     CDS             <1..1407
                     /gene="KIAA0523"
                     /codon_start=1
                     /product="KIAA0523 protein"
                     /protein_id="BAA25449.1"
                     /db_xref="GI:3043570"
                     /translation="ELRQLRRRWFHHFMSDSQGPPALGPEAARPAIHSRGTYIGCFSD
                     DGHERTLKGAVFYDLRKMTVSHCQDACAERSYVYAGLEAGAECYCGNRLPAVSVGLEE
                     CNHECKGEKGSVCGAVDRLSVYRVDELQPGSRKRRTATYRGCFRLPENITHAFPSSLI
                     QANVTVGTCSGFCSQKEFPLAILRGWECYCAYPTPRFNLRDAMDSSVCGQDPEAQRLA
                     EYCEVYQTPVQDTRCTDRRFLPNKSKVFVALSSFPGAGNTWARHLIEHATGFYTGSYY
                     FDGTLYNKGFKGEKDHWRSRRTICVKTHESGRREIEMFDSAILLIRNPYRSLVAEFNR
```

KCAGHLGYAADRNWKSKEWPDFVNSYASWWSSHVLDWLKYGKRLLVVHYEELRRSLVP
TLREMVAFLNVSVSEERLLCVENNKEGSFRRRGRRSHDPEPFTPEMKDLINGYIRTVD
QALRDHNWTGLPREYVPR"

BASE COUNT 1191 a 1340 c 1492 g 1149 t

ORIGIN

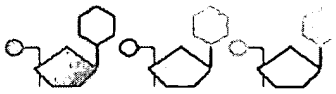
```
        1 gagctgcgtc agttgcgtcg ccgctggttc caccacttca tgagtgactc ccagggaccg
       61 cccgccctgg gccccgaggc tgccaggccc gccatccaca gccgaggcac ctacattgga
      121 tgcttcagtg acgatggcca tgagaggact ctgaaaggag ctgtgtttta tgacttgaga
      181 aagatgactg tctcccactg ccaggatgcg tgtgctgagc ggtcctatgt ctacgccggc
      241 ttggaggccg gggcggagtg ttactgcggg aaccggctgc cagcggtgag cgtggggctg
      301 gaagagtgta accatgagtg caaaggcgag aagggctctg tgtgcggggc tgtggaccgg
      361 ctctccgtgt accgtgtgga cgagctgcag ccgggctcca ggaagcggcg gaccgccacc
      421 taccgcggat gcttccgact gccagagaac atcacacatg ccttccccag ctccctgata
      481 caggccaatg tgaccgtggg gacttgctcg ggcttttgtt cccagaaaga gttccccttg
      541 gccattctca ggggctggga atgctactgt gcttacccta ccccccggtt caacctgcgg
      601 gatgccatgg acagctcagt atgtggccag gaccctgagg cacagaggct ggcagaatac
      661 tgtgaggtct accagacacc tgtgcaagac actcgttgta cagacaggag gttcctgcct
      721 aacaaatcca aagtgtttgt ggctttgtca agcttcccag gagccgggaa cacgtgggca
      781 cggcacctca ttgagcatgc cactggcttc tatacaggga gctactactt tgatggaacc
      841 ctctacaaca aagggttcaa gggcgaaaag gaccactggc ggagccgacg caccatctgt
      901 gtcaaaaccc acgagagtgg caggagggag attgagatgt ttgattcagc catcctgcta
      961 atccggaacc catacaggtc cctggtggca gaattcaaca gaaaatgtgc cgggcacctg
     1021 ggatatgcag ctgaccgcaa ctggaagagc aaagagtggc cggactttgt caacagctac
     1081 gcctcgtggt ggtcctcgca cgtcctggac tggctcaagt acgggaagcg gctgctggtg
     1141 gtgcactacg aggagctgcg gcgcagcctg gtgcccacgt tacgggagat ggtggccttc
     1201 ctcaacgtgt ctgtgagcga ggagcggctg ctctgcgtgg agaacaacaa ggagggcagc
     1261 ttccggcggc gcggccggcg ctcccacgac cctgagccct tcaccccgga gatgaaagac
     1321 ttgatcaatg gctacatccg gacggtggac caagccctgc gtgaccacaa ctggacgggg
     1381 ctgcccaggg agtatgtgcc cagatgatag gcctggccca cgccgccgcc cccgctgagt
     1441 gacgcaatcg caccacgggg ctgcgctccc cactctgatg ctcaggcccg tggcctcact
     1501 gggacgaacg gtgggtgggg ggctcaccct ggtgctgcct cccgcacaag gagacctgga
     1561 cacaacagac acacatcaca aggcgaacac aaatggacac acatacctgg ccacgaaccc
     1621 acacctcctc agacactcag acaccactcc aggctcatag ccccgtcttg atgcagagaa
     1681 gccacccacg tggggtgtgc caggcacccc cagatacaaa tgcagccacg cacagacgta
     1741 acacacaggt gccaggccgt gtgctcctgg aggctggctg gctgtctctc tcacacagat
     1801 acacgtgcgc tccctgggat ccgggaggcc ctgggcttcc tgtgtgtagc cctggcatag
     1861 acttgctcgt cagggtgttc gactctggga tgctgggccg ggcagacatt tatgctctga
     1921 gcagcaagga ccattgggat ggaggtgggc acaaagactg ctgcttccag ggtgtgcggc
     1981 cctggccgtg tgtctgacat cccataaatg tgtgtgtggt gtgactacgg gcaccacaaa
     2041 ctccgcagcc ttgcctctct tttctctgtg gctgggctgg ctgcaccatg ggcagggttg
     2101 aggactgccc cccaccccgc ccaagccaat gcagacactg acctcaagac cagccacacc
     2161 aagtctgtgc actgcccacc acccccttcg acccctccta caccatgctc ctgggcctgg
     2221 ggcctccttg cctggcttct tcctccagct atcctcaggg aagctggaga ttcaagtcat
     2281 gccccagaag caaggtgtaa gcatgggggc gtggggaaga gggcaggagc tgaagttcca
     2341 ggggagccca ggacccctgg ggacctgtac actagcagga tgggtcttgg gagttggcat
     2401 ggggagattg taagggctgt atctccgcga ttactggtac tggtgctcca cccatagggg
     2461 ccctgttctc tctggggtcc cacactgggg tcatgagagc tagttctcat gagagcagga
     2521 cccctaggtc tggtcctgcc agcctgggat gggggtcaat gtatgctaca catcttgggc
     2581 tcacaagtga ggctgtggag gccaggaggt tcaagtatgg agggtaggag tgcaacccag
     2641 gagcaacgct caaggtggcc gagatgcagg gaggattgtg gcgatccggt tgcacactgg
     2701 cctctgtgga ggtcagggag gtgggaaggt gggtgggcct gaactcaggc agcccttcag
     2761 tggcttcttc aggcctagga taaccctggc caggccccat ggtcctgctc tgggtcagct
     2821 gtcagggaga cctcccttca gcctgagcca agctgcattg ggaggagaag gcagggtgag
     2881 ggatctggga gagcaggatg ttgagatatc ctgaccctct gcttcctagc ctgatgatgg
     2941 ggaacacaga gccacccgct atgagcacag gccgggggtg gaaggcccag tagagctgcc
     3001 cttccccaga tggaagcttc ctccaacctt cagtttggcc agtgggtggg tttgggcatc
     3061 tgtgcccctg gtggcctcca aatccttcct gggattcccc caaacccaca ctgatgcgaa
     3121 gctgttcttg accctcccat agcatcaact cagttcagct caaagctaga aacaccaagg
     3181 tctttgaaaa tgtttattgg ctcaggatag cttcagcatc caatctgcga aggcccctga
     3241 tggagctatt tcttcctagt atcaggagca attgagaccc ctcaggagtt tccacactgc
```

```
3301 tgtggacggg atagccaggg cagacctgca tcccagagca agcctagatc cttgaaagca
3361 atgtcaggcg tggcagtggg gaagccatgg aggctgggaa gggcaaagtg tggagagagg
3421 agtgaccggg actggagcca gggtctgggg agagcaacag caccaggctt ttcctggtag
3481 ttggattggt acattcactg ctgccaggta cccagagatg tcatctctct ccaggtagag
3541 catcaccagc tcctgtggcc ttgtagatga ctctgtacct cagtgaagag tgcaggcaag
3601 tagagtgatg gggtcagtgt ccatccagtt tacgctgagt cagtccatac agcaagacac
3661 ctggcacttg gcaggtactc ctggatgttg atgagcaagg aagagcaacg gccctgtcag
3721 ctggcagtgg tcctcacagc cttcatccca ggtctgccta cgtgggagat ctcatcagaa
3781 acaggaacgg ggatctgtct gtgcttgcag gaaagtccat ttgtttttct ccaagttagg
3841 tctcatctac agctcttagc ttctcagtaa agaggatact ctcccaacca gccaaggaat
3901 aaaagctgat ctgtatgtag ggcagaagtg tggcaaatgc atcaggaacc ggttagaaca
3961 gaacagagaa accctgactg tctacagatt ccaactttaa tagcaagcct gtggagttac
4021 acaaacctgt gttaaaacat gtaattttta tggatttcat ctcccgttgt ggatcaattt
4081 ggaaaaacca aaatatgtaa ttttaaaaaa ctaaaacaca tcctggtagt cccagtgatg
4141 tgtaaatgag agagaagaat agacaggctt ccaaaccctg ggaagaaagc tgcttaatta
4201 tgtgaacatc ttataatgaa gtctcttgca gctaaaatta gattttgagt gcatgaatct
4261 gtgataatgt ttgcatatca gaatgcattc tccccttaaa agtagcagta gccacttggt
4321 tcttaggggg ccccaagagg agaggagaag tgctgaggtt gatgttacga ctgcaagaat
4381 tcttgggaca caggtttgtt ttctgctgac ttgctcggaa acccattgga ggtatctgaa
4441 atgtgatgac tccaaagggg ttcatttcac tatagggaga aattgattcg tctgacttcc
4501 tatttatcac cactcaatat tgggtgagtt ggtctgaaca aggtggggat aaagtagagt
4561 ggaaataatg tagagtcgtc agactgaaag gccaggttgt agtcccagct cttatctgcc
4621 atcttggaca aagcttttcc catctccagt ctcagtttcc catccataaa atgggggaag
4681 tggtaggtct tgctgattgc atccacattc attcctccat ttcctttccc agcaaccccc
4741 catttctgtt tgggaattca tatgatctgc cagagcctct ccaggggtgg aatacatgtc
4801 ctggactaag ccaatgacac cttccatctt tccagctatg gtgactgggt taggtatgat
4861 cttgtgagtt aagacaatga agccagaggg aatttcaaga cttatgggaa tgctgggtag
4921 aagctgtttt aattcccctg ttgaatgtga aaaaggtagt agtattcctg ggtctttatg
4981 atgaccacct tgggccttgg gatcatgacc aggaatcacg tgaagctgac accactgaag
5041 ggagagttga gaggcagaaa gagatcaagt ccttggtgaa attgtttaag tacaggatca
5101 agccttgctt gagattggcc ttacctctgg actttttttg ttatatgagc taataaattc
5161 tgtttattgt tt
```

//

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AA426220. zv84d01.s1 Soares...[gi:2107753] Links

IDENTIFIERS

dbEST Id: 1070767
EST name: zv84d01.s1
GenBank Acc: AA426220
GenBank gi: 2107753

CLONE INFO
Clone Id: IMAGE:760321 (3')
Source: IMAGE Consortium, LLNL
DNA type: cDNA

PRIMERS
Sequencing: -41m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

AAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAATC
TCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGCC
TCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGCC
CAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGAA
TTAAAACAGCTTCTACCCAGCAT

Quality: High quality sequence stops at base: 194

Entry Created: May 19 1997
Last Updated: Oct 16 1997

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_total_fetus_Nb2HF8_9w
Organism: Homo sapiens
Develop. stage: 8-9 weeks
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was prepared from mRNA obtained from pooled 8-9 week (total) fetus material with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCTTAATTTTTTTTTTTTTTTT 3']. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was constructed by

Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

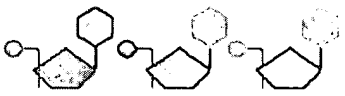
CITATIONS

Title: WashU-Merck EST Project 1997
Authors: Hillier,L., Allen,M., Bowles,L., Dubuque,T., Geisel,G., Jost ,S., Kucaba,T., Lacy,M., Le,N., Lennon,G., Marra,M., Martin ,J., Moore,B., Schellenberg,K., Steptoe,M., Tan,F., Theising ,B., White,Y., Wylie,T., Waterston,R., Wilson,R.
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AI915364. wd38f08.x1 Soares...[gi:5635219] Links

IDENTIFIERS

dbEST Id:	**3037330**
EST name:	wd38f08.x1
GenBank Acc:	AI915364
GenBank gi:	5635219

CLONE INFO

Clone Id:	IMAGE:2330439 (3')
Source:	NCI
Insert length:	459
DNA type:	cDNA

PRIMERS

Sequencing:	-40UP from Gibco
PolyA Tail:	Unknown

SEQUENCE

TTTTTTTTTTAAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGT
AAGGCCAATCTCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATC
TCTTTCTGCCTCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGA
TCCCAAGGCCCAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTC
AACAGGGGAATTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGG

Quality: High quality sequence stops at base: 272

Entry Created:	Jul 28 1999
Last Updated:	Dec 17 1999

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY

Lib Name:	Soares_NFL_T_GBC_S1
Organism:	Homo sapiens
Organ:	pooled
Lab host:	DH10B
Vector:	pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1:	Not I
R. Site 2:	Eco RI
Description:	Equal amounts of plasmid DNA from three normalized libraries (fetal lung NbHL19W, testis NHT, and B-cell NCI_CGAP_GCB1) were mixed, and ss circles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from pools of 5,000 clones made from the same 3 libraries. The pools consisted of I.M.A.G.E. clones 297480-302087,

682632-687239, 726408-728711, and 729096-731399. Subtraction by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

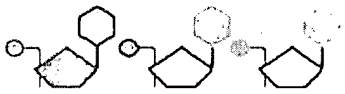
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: Z39512. HSC1BH062 normali...[gi:562704] Links

IDENTIFIERS

dbEST Id: 64601
EST name: HSC1BH062
GenBank Acc: Z39512
GenBank gi: 562704

CLONE INFO
Clone Id: c-1bh06 (3')
DNA type: cDNA

PRIMERS
Sequencing: (-21)M13_universal
PolyA Tail: Unknown

SEQUENCE

AAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAATC
TCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGCC
TCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGCC
CAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGAA
TTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGTC
TTAACTCACANGATCATACCTAACCCAGTCACCATAGCTGGAAAGATG

Entry Created: Oct 31 1994
Last Updated: Oct 31 1994

COMMENTS

Single read. 25 T removed at sequence 5'end
Genexpress_library_idt: C; Genexpress_sequence_idt:
a1c-1bh06

LIBRARY
Lib Name: normalized infant brain cDNA
Organism: Homo sapiens
Sex: Female
Organ: brain
Tissue type: total brain
Develop. stage: 3 months old
Vector: lafmid BA
R. Site 1: HindIII
R. Site 2: NotI
Description: sex=Female; dev_stage=3 months old; isolate=muscular atrophy patient; tissue_type=total brain; total mRNA was oligo-(dT) primed and directionally cloned 5' -> 3' into the HindIII -> NotI sites of the lafmid BA vector. Clone library from B.Soares, Psychiatry Dept. Columbia University, USA. Normalization_method: Bento Soares, P.N.A.S in press

SUBMITTER

Name:	Genethon
Lab:	Genexpress-Genethon
Institution:	Genethon Centre de recherche sur le Genome Humain
Address:	1,rue de l'Internationale, BP60 91002 EVRY Cedex, FRANCE
Tel:	33169472800
Fax:	33160778698
E-mail:	genexpress@genethon.fr

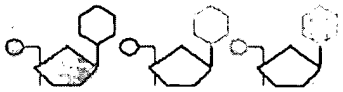
CITATIONS

Medline UID:	95277534
Title:	IMAGE: molecular integration of the analysis of the human genome and its expression
Authors:	Auffray,C., Behar,G., Bois,F., Bouchier,C., da Silva,C., Devignes,M.D., Duprat,S., Houlgatte,R., Jumeau,M.N., Lamy,B., Lorenzo,F., Mitchell,H., Mariage-Samson,R., Pietu,G., Pouliot,Y., Sebastiani-Kabaktchis,C., Tessier,A.
Citation:	C. R. Acad. Sci. III, Sci. Vie 318 (2): 263-272 1995

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: N63086. yz32e07.s1 Soares...[gi:1210915] Links

IDENTIFIERS

dbEST Id:	**468837**
EST name:	yz32e07.s1
GenBank Acc:	N63086
GenBank gi:	1210915
GDB Id:	3903300

CLONE INFO

Clone Id:	IMAGE:284772 (3')
Source:	IMAGE Consortium, LLNL
Insert length:	724
DNA type:	cDNA

PRIMERS

Sequencing:	m13 -40 forward
PolyA Tail:	Unknown

SEQUENCE

AAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAATC
TCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGCC
TCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGCC
CAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGAA
TTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGTC
TTAACTCACAAGATCATACCTAACCCCAGTCACCATAAGCTGGAAAGATGGA

Quality: High quality sequence stops at base: 285

Entry Created:	Feb 23 1996
Last Updated:	Jan 30 1997

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY

Lib Name:	Soares_multiple_sclerosis_2NbHMSP
Organism:	Homo sapiens
Sex:	male
Tissue type:	multiple sclerosis lesions
Develop. stage:	Age 46
Lab host:	DH10B (ampicillin resistant)
Vector:	pT7T3D (Pharmacia) with a modified polylinker V_TYPE: phagemid
R. Site 1:	Not I
R. Site 2:	Eco RI
Description:	1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATTTTTTTTTTTTTTTTTT 3'],

double-stranded cDNA was size selected, ligated to Eco RI adapters (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of a modified pT7T3 vector (Pharmacia). Library went through one round of normalization to a Cot = 5. Library constructed by Bento Soares and M.Fatima Bonaldo. RNA from 4 multiple sclerosis lesions from one patient was kindly provided by Dr. Kevin G. Becker (NINDS/NIH).

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

CITATIONS

Medline UID: 97044478
Title: Generation and analysis of 280,000 human expressed sequence tags
Authors: Hillier,L., Lennon,G., Becker,M., Bonaldo,M.F., Chiapelli,B., Chissoe,S., Dietrich,N., DuBuque,T., Favello,A., Gish,W., Hawkins,M., Hultman,M., Kucaba,T., Lacy,M., Le,M., Le,N., Mardis,E., Moore,B., Morris,M., Parsons,J., Prange,C., Rifkin,L., Rohlfing,T., Schellenberg,K., Soares,M.B., Tan,F., Thierry-Meg,J., Trevaskis,E., Underwood,K., Wohldmann,P., Waterston,R., Wilson,R., Marra,M.
Citation: Genome Res. 6 (9): 807-828 1996

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AI095108. qa14h11.x1 NCI_CG...[gi:3434084] Links

IDENTIFIERS

dbEST Id: **1853495**
EST name: qa14h11.x1
GenBank Acc: AI095108
GenBank gi: 3434084

CLONE INFO
Clone Id: IMAGE:1686789 (3')
Source: NCI
Insert length: 724
DNA type: cDNA

PRIMERS
Sequencing: -40m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

TAAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAAT
CTCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGC
CTCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGC
CCAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGA
ATTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGT
CTTAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAAAGATGGAAGGTGTCAT
TGGCTTAGTCCAGGACATGTATTCCACCCCTGGAGAG

Quality: High quality sequence stops at base: 396

Entry Created: Aug 18 1998
Last Updated: Oct 1 1998

COMMENTS

Tissue Procurement: David N. Louis, M.D., Myrna R. Rosenfeld M.D., Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Brn23
Organism: Homo sapiens
Organ: brain
Tissue type: glioblastoma (pooled)
Lab host: DH10B

Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATATCTTTTTTTTTTTTTTTTTTTTTTT 3']; double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized, and was constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute / National Institute of Neurological Disorders and Stroke, Brain Tumor Genome Anatomy Project (CGAP/BTGAP), Tumor Gene Index
Authors: NCI/NINDS-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1998
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

Entrez Nucleotide

1: AI056703. oy53e04.x1 NCI_CG...[gi:3330569] Links

IDENTIFIERS

dbEST Id: **1796154**
EST name: oy53e04.x1
GenBank Acc: AI056703
GenBank gi: 3330569

CLONE INFO
Clone Id: IMAGE:1669566 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: -40m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

TAAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAAT
CTCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGC
CTCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGC
CCAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGA
ATTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGT
CTTAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAAAGATGGAAGGTGTCAT
TGGCTTAGTCCAGGACATGTATTCCACCCCTGGAGAGGCTCTGGCAGATCATATGAATTC
CCAAACAGAAATGGGGGGTT

Entry Created: Jul 20 1998
Last Updated: Jul 20 1998

COMMENTS

Tissue Procurement: David N. Louis, M.D., Myrna R. Rosenfeld M.D., Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Brn23
Organism: Homo sapiens
Organ: brain
Tissue type: glioblastoma (pooled)
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker

R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATATCTTTTTTTTTTTTTTTTTTTTTTT 3']; double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized, and was constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute / National Institute of Neurological Disorders and Stroke, Brain Tumor Genome Anatomy Project (CGAP/BTGAP), Tumor Gene Index
Authors: NCI/NINDS-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1998
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: BE326640. hr62f06.x1 NCI_CG...[gi:9200416] Links

IDENTIFIERS

dbEST Id: **5303724**
EST name: hr62f06.x1
GenBank Acc: BE326640
GenBank gi: 9200416

CLONE INFO
Clone Id: IMAGE:3133091 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

AAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAATC
TCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGCC
TCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGCC
CAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGAA
TTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTAAATTCCCTCTGGCTTCATTGTCT
TAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAAAGATGGAAGGTGTCATTG
GCTTAGTCCAGGACATGTATTCCACCCCTGGAGAGGCTCTGGCAGATCATATGAATTCCC
AAACAGAAATGGGGGGTTGCTGGGAAAGGAAATGG

Entry Created: Jul 14 2000
Last Updated: Jul 14 2000

COMMENTS

Tissue Procurement: Christopher Moskaluk, M.D., Ph.D.,
Michael R. Emmert-Buck, M.D., Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL, send email to: info@image.llnl.gov

LIBRARY
Lib Name: NCI_CGAP_Kid11
Organism: Homo sapiens
Organ: kidney
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI

Description: Plasmid DNA from the normalized library NCI_CGAP_Kid3 was prepared, and ss circles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from a pool of 5,000 clones made from the same library (cloneIDs 1322376-1323911, 1456007-1456775, and 1500552-1502855). Subtraction by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

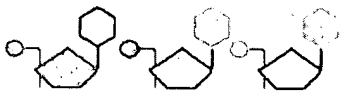
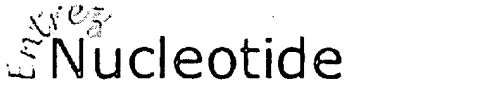
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

1: AI359305. qy29c09.x1 NCI_CG...[gi:4110926] Links

IDENTIFIERS

dbEST Id: **2143123**
EST name: qy29c09.x1
GenBank Acc: AI359305
GenBank gi: 4110926

CLONE INFO
Clone Id: IMAGE:2013424 (3')
Source: NCI
Insert length: 730
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

AAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAATC
TCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGCC
TCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGCC
CAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGAA
TTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGTC
TTAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAAAGATGGAAGGTGTCATT
GGCTTAGTCCAGGACATGTATTCCACCCCTGGAGAGGCTCTGGCAGATCATATGAATTCC
CAAACAGAAATGGGGGGTTGCTGGGAAAGGAAATGGAGGAATGAATGTGG

Entry Created: Jan 6 1999
Last Updated: Feb 15 1999

COMMENTS

Tissue Procurement: David N. Louis, M.D., Myrna R. Rosenfeld M.D., Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Brn23
Organism: Homo sapiens
Organ: brain
Tissue type: glioblastoma (pooled)
Lab host: DH10B

Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATATCTTTTTTTTTTTTTTTTTTTTTTTT 3']; double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized, and was constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute / National Institute of Neurological Disorders and Stroke, Brain Tumor Genome Anatomy Project (CGAP/BTGAP), Tumor Gene Index
Authors: NCI/NINDS-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1998
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AI421276. tf19g05.x1 NCI_CG...[gi:4267207] Links

IDENTIFIERS

dbEST Id: **2229032**
EST name: tf19g05.x1
GenBank Acc: AI421276
GenBank gi: 4267207

CLONE INFO
Clone Id: IMAGE:2096696 (3')
Source: NCI
Insert length: 745
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

AAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAATC
TCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGCC
TCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGCC
CAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGAA
TTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGTC
TTAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAAAGATGGAAGGTGTCATT
GGCTTAGTCCAGGACATGTATTCCACCCCTGGAGAGGCTCTGGCAGATCATATGAATTCC
CAAACAGAAATGGGGGGTTGCTGGGAAAGGAAATGGAGGAATGAATGTGGATGCAATCAG
C

Quality: High quality sequence stops at base: 451

Entry Created: Feb 10 1999
Last Updated: Mar 28 1999

COMMENTS

Tissue Procurement: David N. Louis, M.D., Myrna R. Rosenfeld M.D., Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Brn23
Organism: Homo sapiens
Organ: brain

Tissue type:	glioblastoma (pooled)
Lab host:	DH10B
Vector:	pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1:	Not I
R. Site 2:	Eco RI
Description:	1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATATCTTTTTTTTTTTTTTTTTTTTTTTT 3']; double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized, and was constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name:	Robert Strausberg, Ph.D.
E-mail:	cgapbs-r@mail.nih.gov

CITATIONS

Title:	National Cancer Institute / National Institute of Neurological Disorders and Stroke, Brain Tumor Genome Anatomy Project (CGAP/BTGAP), Tumor Gene Index
Authors:	NCI/NINDS-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year:	1998
Status:	Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AW008726. ws72c12.x1 NCI_CG...[gi:5857504] Links

IDENTIFIERS

dbEST Id: **3137714**
EST name: ws72c12.x1
GenBank Acc: AW008726
GenBank gi: 5857504

CLONE INFO
Clone Id: IMAGE:2502742 (3')
Source: NCI
Insert length: 679
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

AAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAATC
TCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGCC
TCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGCC
CAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGAA
TTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGTC
TTAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAAAGATGGAAGGTGTCATT
GGCTTAGTCCAGGACATGTATTCCACCCCTGGAGAGGCTCTGGCAGATCATATGAATTCC
CAAACAGAAATGGGGGGTTGCTGGGAAAGGAAATGGAGGAATGAATGTNGATGCAATCAG
CAAGACCTACC

Quality: High quality sequence stops at base: 465

Entry Created: Sep 9 1999
Last Updated: Mar 8 2000

COMMENTS

Tissue Procurement: David N. Louis, M.D., Myrna R. Rosenfeld M.D., Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Brn23
Organism: Homo sapiens
Organ: brain

Tissue type: glioblastoma (pooled)
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATATCTTTTTTTTTTTTTTTTTTTTTTTT 3']; double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized, and was constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

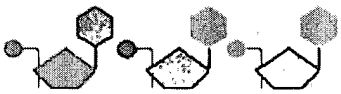
CITATIONS

Title: National Cancer Institute / National Institute of Neurological Disorders and Stroke, Brain Tumor Genome Anatomy Project (CGAP/BTGAP), Tumor Gene Index
Authors: NCI/NINDS-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1998
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AI685123. wc67g02.x1 NCI_CG...[gi:4896417] Links

IDENTIFIERS

dbEST Id: **2584900**
EST name: wc67g02.x1
GenBank Acc: AI685123
GenBank gi: 4896417

CLONE INFO
Clone Id: IMAGE:2323730 (3')
Source: NCI
Insert length: 766
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

TAAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTCCAGAGGTAAGGCCAAT
CTCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGACTTGATCTCTTTCTGC
CTCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTGGTCATGATCCCAAGGC
CCAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTTCACATTCAACAGGGGA
ATTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTCCCTCTGGCTTCATTGT
CTTAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAAAGATGGAAGGTGTCAT
TGGCTTAGTCCAGGACATGTATTCCACCCCTGGAGAGGCTCTGGCAGATCATATGAATTC
CCAAACAGAAATGGGGGGTTGCTGGGAAAGGAAATGGAGGAATGAATGTGGATGCAATCA
GCAAGACCTACCACTTC

Quality: High quality sequence stops at base: 412

Entry Created: May 27 1999
Last Updated: Dec 17 1999

COMMENTS

Life Technologies catalog #: 11548-013
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Pan1
Organism: Homo sapiens
Organ: pancreas
Tissue type: adenocarcinoma
Lab host: DH10B
Vector: pCMV-SPORT6
R. Site 1: SalI

R. Site 2: NotI
Description: Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.72 kb. Life Technologies catalog #: 11548-013

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AW294233. UI-H-BI2-ahc-f-12...[gi:6700869] Links

IDENTIFIERS

dbEST Id: **3677341**
EST name: UI-H-BI2-ahc-f-12-0-UI.s1
GenBank Acc: AW294233
GenBank gi: 6700869

CLONE INFO
Clone Id: IMAGE:2726542 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: M13 Forward
PolyA Tail: yes

SEQUENCE

TTTTTTTTTTTTTTTTTAAACAATAAACAGAATTTATTAGCTCATATAACAAAAAAAGTC
CAGAGGTAAGGCCAATCTCAAGCAAGGCTTGATCCTGTACTTAAACAATTTCACCAAGGA
CTTGATCTCTTTCTGCCTCTCAACTCTCCCTTCAGTGGTGTCAGCTTCACGTGATTCCTG
GTCATGATCCCAAGGCCCAAGGTGGTCATCATAAAGACCCAGGAATACTACTACCTTTTT
CACATTCAACAGGGGAATTAAAACAGCTTCTACCCAGCATTCCCATAAGTCTTGAAATTC
CCTCTGGCTTCATTGTCTTAACTCACAAGATCATACCTAACCCAGTCACCATAGCTGGAA
AGATGGAAGGTGTCATTGGCTTAGTCCAGGACATGTATTCCACCCCTGGAGAGGCTCTGG
CAGATCATATGAATTCCCAAACAGAAATGGGGGGTTGCTGGGAAAGGAAATGGAGGAATG
AATGTGGATGCAATCAGCAAGAACTACCACTT

Entry Created: Jan 14 2000
Last Updated: Jan 16 2000

COMMENTS

The sequence contained an oligo-dT track that was present in the oligonucleotide that was used to prime the synthesis of first strand cDNA and therefore this may represent a bonafide poly A tail. cDNA Library Preparation: M.B. Soares Lab Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html The following repetitive elements were found in this cDNA sequence: 1-27, >AT_rich#Low_complexity

LIBRARY
Lib Name: NCI_CGAP_Sub4
Organism: Homo sapiens
Tag Seq: ATATC
Tag Tissue: brain
Tag Lib: NCI_CGAP_Brn23
Lab host: DH10B (Life Technologies)

Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: The NCI_CGAP_Sub4 library is a subtracted library derived from the NCI_CGAP_Sub2 library which is a subtracted library derived from the NCI_CGAP_Sub1 library, which is a subtracted library derived from BI. BI constitutes a mixture of 21 normalized or subtracted NCI_CGAP libraries: NCI_CGAP_Co4, NCI_CGAP_Pr22, NCI_CGAP_Pr28, NCI_CGAP_Co10, NCI_CGAP_Co16, NCI_CGAP_Kid5, NCI_CGAP_Kid12, NCI_CGAP_Kid3, NCI_CGAP_Kid11, NCI_CGAP_Lym2, NCI_CGAP_Br2, NCI_CGAP_Co8, NCI_CGAP_CLL1, NCI_CGAP_Lei2, NCI_CGAP_Brn23, NCI_CGAP_Lu5, NCI_CGAP_Lu24, NCI_CGAP_Lu19, NCI_CGAP_GC4, NCI_CGAP_GC6, NCI_CGAP_Brn25. These 21 libraries were pooled and a single-stranded DNA preparation of the resulting mixture was used as a tracer in a subtractive hybridization with a driver whose composition is detailed below: NCI_CGAP_Kid3 pool 1 : LLAM 3334-3337, 3682-3683, 3798-3803 (IMAGE CloneIDs 1322376-1323911, 1456008-1456775, 1500552-1502855) NCI_CGAP_Kid5 pool 1 : LLAM 3338-3342, 3722-3725, 3776-3778 (IMAGE CloneIDs 1323912-1325831, 1471368-1472903, 1492104-1493255) NCI_CGAP_Lu5 pool 1 : LLAM 3575-3582, 3851-3854 (IMAGE CloneIDs 1414920-1417991, 1520904-1522439) NCI_CGAP_GC4 pool 1 : LLAM 3164-3167, 3716-3720, 3733-3735 (IMAGE CloneIDs 1257096-1258631, 1469064-1470983, 1475592-1476743) NCI_CGAP_Pr22 pool 1 : LLAM 2457-2459, 2758-2759, 3062-3068 (IMAGE CloneIDs 985608-986759, 1101192-1101959, 1217928-1220615) NCI_CGAP_Co10 pool 1 : LLAM 2644-2653, 2871-2872 (IMAGE CloneIDs 1057416-1061255, 1144584-1145351) Subtraction was performed as previously described [Bonaldo, Lennon & Soares (1996): Normalization and Subtraction: Two Approaches To Facilitate Gene Discovery. Genome Research 6, 791-806.]

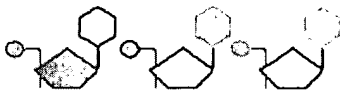
SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA



Entrez Nucleotide

PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo

Search Nucleotide for Go Clear

Limits Preview/Index History Clipboard Details

Display default Show: 20 Send to File Get Subsequence

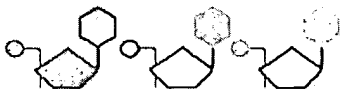
1: G42509. SHGC-58593 Human ...[gi:4062074] Links

```
LOCUS       G42509                   451 bp    DNA     linear   STS 24-DEC-1998
DEFINITION  SHGC-58593 Human Homo sapiens STS genomic, sequence tagged site.
ACCESSION   G42509
VERSION     G42509.1  GI:4062074
KEYWORDS    STS.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 451)
  AUTHORS   Myers,R.M.
  TITLE     Human STSs (1998)
  JOURNAL   Unpublished (1998)
COMMENT
            Contact: Richard M. Myers
            Stanford Human Genome Center (SHGC)
            Stanford University School of Medicine
            Department of Genetics, M-344, Stanford, CA 94305, USA
            Tel: 4157259687
            Fax: 4157259689
            Email: myers@shgc.stanford.edu
            Primer A: GCAAATGGAGTCACACGCTC
            Primer B: GGCCAATTATTTCCATCGCT
            STS size: 254
            PCR Profile:
                    Initial incubation: 95 degrees C for 10 minutes

                    Denaturation:       94 degrees C for 30 seconds
                    Annealing:          60 degrees C for 30 seconds
                    Polymerization:     72 degrees C for 23 seconds
                    PCR Cycles:         30
                    Thermal Cycler:     Perkin Elmer 9700
            Protocol:
                    Template:                   25 ng
                    Primer:                     each 1 uM
                    dNTPs:                      each 200 uM
                    AmpliTaq Gold Polymerase: 0.07 units/ul
                    Total Vol:                  5 ul

            Buffer:
                    MgCl2:          2.5 mM
                    KCl:           50 mM
                    Tris-HCl:      10 mM
                    pH:             8.3

            Prepared with primer pairs derived from AA004887 -- Unigene.
FEATURES             Location/Qualifiers
     source          1..451
```

```
                     /organism="Homo sapiens"
                     /mol_type="genomic DNA"
                     /db_xref="taxon:9606"
                     /map="11"
                     /clone_lib="Human"
     STS             49..302
     primer_bind     49..68
     primer_bind     complement(283..302)
BASE COUNT      134 a     77 c     97 g    142 t      1 others
ORIGIN
        1 gcagaggcct ccacttttta tttcagttgt actcatctgt cccactgtgc aaatggagtc
       61 acacgctcac tcaattctga gaggcctggc aagnaaagag aaaagatgcc cagagcagtc
      121 tgttagagtt gcattctcag actaatatct ttacagtctt gagaaatcac tgtcagggtt
      181 tatttaaaat gcagattttt gaaggataaa ttttacgact aatttttttt aataaactat
      241 gcaggattgt tatttagaag atttgccaaa tttagagtct tcagcgatgg aaataattgg
      301 ccttcttgtc acagtcttct gtttataagt gggtaaagaa agttttcttt ccagaaaaat
      361 acagcagaaa atccgatggt tctgatagga gttaattgtg gagatgtgcc agagacagca
      421 gcttcgtgga tggtgacacc acaatgtctg t
//
```

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AA004887. zh90g01.s1 Soares...[gi:1447704] Links

IDENTIFIERS

dbEST Id:	**615134**
EST name:	zh90g01.s1
GenBank Acc:	AA004887
GenBank gi:	1447704
GDB Id:	1328361

CLONE INFO

Clone Id:	IMAGE:428592 (3')
Source:	IMAGE Consortium, LLNL
DNA type:	cDNA

PRIMERS

Sequencing:	mob.REGA+ET
PolyA Tail:	Unknown

SEQUENCE

GCAGAGGCCTCCACTTTTTATTTCAGTTGTACTCATCTGTCCCACTGTGCAAATGGAGTC
ACACGCTCACTCAATTCTGAGAGGCCTGGCAAGNAAAGAGAAAAGATGCCCAGAGCAGTC
TGTTAGAGTTGCATTCTCAGACTAATATCTTTACAGTCTTGAGAAATCACTGTCAGGGTT
TATTTAAAATGCAGATTTTTGAAGGATAAATTTTACGACTAATTTTTTTTTAATAAACTAT
GCAGGATTGTTATTTAGAAGATTTGCCAAATTTAGAGTCTTCAGCGATGGAAATAATTGG
CCTTCTTGTCACAGTCTTCTGTTTATAAGTGGGTAAAGAAAGTTTTCTTTCCAGAAAAAT
ACAGCAGAAAATCCGATGGTTCTGATAGGAGTTAATTGTGGAGATGTGCCAGAGACAGCA
GCTTCGTGGATGGTGACACCACAATGTCTGT

Quality: High quality sequence stops at base: 429

Entry Created:	Jul 23 1996
Last Updated:	Jul 23 1996

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY

Lib Name:	Soares_fetal_liver_spleen_1NFLS_S1
Organism:	Homo sapiens
Sex:	male
Organ:	Liver and Spleen
Develop. stage:	20 week-post conception fetus
Lab host:	DH10B (ampicillin resistant)
Vector:	pT7T3D (Pharmacia) with a modified polylinker
R. Site 1:	Pac I
R. Site 2:	Eco RI
Description:	This is a subtracted version of the original Soares fetal liver spleen 1NFLS library. 1st strand cDNA was primed with

a Pac I - oligo(dT) primer [5'
AACTGGAAGAATTAATTAAAGATCTTTTTTTTTTTTTTTTT 3'],
double-stranded cDNA was ligated to Eco RI adaptors
(Pharmacia), digested with Pac I and cloned into the Pac I
and Eco RI sites of the modified pT7T3 vector. Library went
through one round of normalization. Library constructed by
Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AA281006. zs94a06.s1 NCI_CG...[gi:1923895] Links

IDENTIFIERS

dbEST Id: **922124**
EST name: zs94a06.s1
GenBank Acc: AA281006
GenBank gi: 1923895
GDB Id: 5854830

CLONE INFO
Clone Id: IMAGE:705106 (3')
Source: IMAGE Consortium, LLNL
Insert length: 845
DNA type: cDNA

PRIMERS
Sequencing: -41m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTTTTAATTAGCTGTTCTTGTCATATAGTTTTATTCCTTTATCTTTTTTTGAAC
ATTTTATACACCCTTATTTCAATGTTCCTTTTAGATCACTCTATTCTCTTTACTCTCTGG
GCTTTGAATCTCCTTGTTTCTTGTATCTGCTGCCTCTCTTTGGGATACCTGGGAGTTTTT
CCTCTGACCTCGTCTTCAGTAGGAAATGATTTTCCATGAGAATCCTGGTTCCCCTGGATG
AGGACGGTGTCTCCTGGGGAGAATGTCCTGTT

Quality: High quality sequence stops at base: 252

Entry Created: Mar 17 1997
Last Updated: Aug 14 1997

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: NCI_CGAP_GCB1
Organism: Homo sapiens
Tissue type: germinal center B cell
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was prepared from human tonsillar cells enriched for germinal center B cells by flow sorting (CD20+, IgD-), provided by Dr. Louis M. Staudt (NCI), Dr. David Allman (NCI) and Dr. Gerald Marti (CBER). cDNA synthesis was primed with a Not I - oligo(dT) primer [5'-TGTTACCAATCTGAAGTGGGAGCGGCCGCCTCATTTTTTTTTTTTTTTTT-3'].

Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

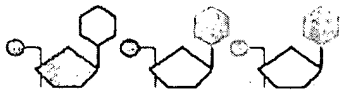
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AA490819. aa49f05.s1 NCI_CG...[gi:2219992] Links

IDENTIFIERS

dbEST Id: **1135060**
EST name: aa49f05.s1
GenBank Acc: AA490819
GenBank gi: 2219992

CLONE INFO
Clone Id: IMAGE:824289 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: -41m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTTCACTGTCACCATGAATTTAAATTTATTGAGTGCCCCACAAATGCTAGTCTA
TTCTCAGTACATTTGATGAACACCATTTCTTTATCTCTAAAGGATGAGAGAATATTTGCT
ACTATATATTTTTTTTGCTCATCACCCAGCCAGAATACAAATGGAACTCCTATGAATATT
CTAAAGCATAATGAGGAAGGGGCTCCAGGCTAAATGCAAGTATCCTTGATTAATGTTTTC
CCCACCACTGGGAATCACCCTCCCCCGCTCCCCTGAAGCTTCCCCACAAGGTGCGGGGGG
AAGCAGGAGAAAAAAAAGG

Entry Created: Jun 25 1997
Last Updated: Aug 15 1997

COMMENTS

Tissue Procurement: Louis M. Staudt, M.D., Ph.D., David Allman, Ph.D., Gerald Marti, M.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_GCB1
Organism: Homo sapiens
Tissue type: germinal center B cell
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was prepared from human tonsillar cells

enriched for germinal center B cells by flow sorting (CD20+, IgD-), provided by Dr. Louis M. Staudt (NCI), Dr. David Allman (NCI) and Dr. Gerald Marti (CBER). cDNA synthesis was primed with a Not I - oligo(dT) primer [5'-TGTTACCAATCTGAAGTGGGAGCGGCCGCCTCATTTTTTTTTTTTTTTTT-3']. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

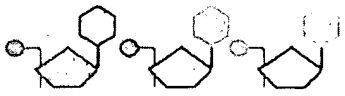
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AA490870. aa48b07.s1 NCI_CG...[gi:2220043] Links

IDENTIFIERS

dbEST Id: **1135111**
EST name: aa48b07.s1
GenBank Acc: AA490870
GenBank gi: 2220043

CLONE INFO
Clone Id: IMAGE:824149 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: -41m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTTCACTGTCACCATGAATTTAAATTTATTGAGTGCCCCACAAATGCTAGTCTA
TTCTCAGTACATTTGATGAACACCATTTCTTTATCTCTAAAGGATGAGAGAATATTTGCT
ACTATATATTTTTTTTGCTCATCACCCAGCCAGAATACAAATGGAACTCCTATGAATATT
CTAAAGCATAATGAGGAAGGGGCTCCAGGCTAAATGCAAGTATCCTTGATTAATGTTTTC
CCCACCACTGGGAATCACCCTCCCCCGCTCCCCTGAAGCTTCCCCACAAGGTGCGGGGGG
AAGCAGGAGAAAAAAAAGGAAGAGCCAAGGTATACTCCTGATAACGACACAAAAATTGAG
CAGTAGTAC

Quality: High quality sequence stops at base: 327

Entry Created: Jun 25 1997
Last Updated: Aug 15 1997

COMMENTS

Tissue Procurement: Louis M. Staudt, M.D., Ph.D., David Allman, Ph.D., Gerald Marti, M.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_GCB1
Organism: Homo sapiens
Tissue type: germinal center B cell
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I

R. Site 2: Eco RI
Description: 1st strand cDNA was prepared from human tonsillar cells enriched for germinal center B cells by flow sorting (CD20+, IgD-), provided by Dr. Louis M. Staudt (NCI), Dr. David Allman (NCI) and Dr. Gerald Marti (CBER). cDNA synthesis was primed with a Not I - oligo(dT) primer [5'-TGTTACCAATCTGAAGTGGGAGCGGCCGCCTCATTTTTTTTTTTTTTTTT-3']. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

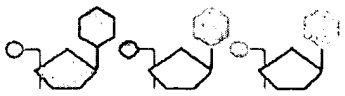
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: N71063. za86a11.s1 Soares...[gi:1227643] Links

IDENTIFIERS

dbEST Id: **477157**
EST name: za86a11.s1
GenBank Acc: N71063
GenBank gi: 1227643
GDB Id: 1244344

CLONE INFO
Clone Id: IMAGE:299420 (3')
Source: IMAGE Consortium, LLNL
DNA type: cDNA

PRIMERS
Sequencing: m13 -40 forward
PolyA Tail: Unknown

SEQUENCE

CATTATTATAAGCTGAATTTTTATTTTACTAAATTATCTATGTCAAAAAAATTCTGTGCC
TGGCGTGGAATTTCACTCCATCAAGTGTTACAATGATTTTTTCATTTTCATTACAAGCAG
GAGAATGAATGTAGGACAAGTGTTAGGAAACATGGCAATAAATTAGAATATAATTTACAA
AAGCAAAAAAATTAACAGTGTACCACATTATTACTGAGTATAAAATAATAAGCAACAACT
AATCACAATAATACAAAGGTAATTTCGTTCTGTGTTACTGAGGATACCTATGTGACATTC
ATTCAAACAAAAAAGTTCCTAATGAAATGGACTATTTGGGAAATCATATGTATCTCACGG
GGTTTAATCATTAGGGTACATTTACCGTTCCCTTTTTAGTAGGACTTTATCCCAGTGGCA
GATACTGCTCCCAGGTGTAAG

Quality: High quality sequence stops at base: 344

Entry Created: Mar 14 1996
Last Updated: Mar 14 1996

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_fetal_lung_NbHL19W
Organism: Homo sapiens
Organ: lung
Develop. stage: 19 weeks
Lab host: DH10B (ampicillin resistant)
Vector: pT7T3D (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5'-TGTTACCAATCTGAAGTGGGAGCGGCCGCAATTTTTTTTTTTTTTTT-3'], double-stranded cDNA was size selected, ligated to Eco RI

adapters (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of a modified pT7T3 vector (Pharmacia). Library went through one round of normalization to a Cot = 5. Library constructed by Bento Soares and M.Fatima Bonaldo. This library was constructed from the same fetus as the fetal heart library, Soares fetal heart NbHH19W.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AA243738. zr68c12.s1 Soares...[gi:1874531] Links

IDENTIFIERS

dbEST Id: 883127
EST name: zr68c12.s1
GenBank Acc: AA243738
GenBank gi: 1874531
GDB Id: 5562533

CLONE INFO
Clone Id: IMAGE:668566 (3')
Source: IMAGE Consortium, LLNL
DNA type: cDNA

PRIMERS
Sequencing: -41m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTTTTTATTGTGAACACAATTTTCTTTATTTCATTTTTGGAGTTTTCTGAACAG
AAAAATACAATTGATTTTCTGTATATTGATCTAGCCTGTGACCTTGCTGAACTTGATTAA
TTCTATTACACTATGATTTTTTGTTGTGGTTAGACCCTTACACAATCAAATGAGGTTAAA
AAAAAATTGTCAGAGTGGCCCCAGACCAACAACAGGATGACAGTAGCCTTTGCCCATACA
GAGATAAAATTTAGTTTTTGCAGTCCTTTCCCATAGAGATTGTATGGCAGTAGCAATTCT
ATGGCCTACTGCCATACAACCTGAACTGAAGTCCAGAAAGTTTAGGTGACTGGGCCACAG
AGCTAATTACTGGTGGAGCCAAGAAGAGAAATTATATCCCTACCTCCTTGCCCACTAAGC
TCCCCATTCCAGTGGGCTGCTTTCTGGT

Quality: High quality sequence stops at base: 349

Entry Created: Mar 7 1997
Last Updated: Mar 7 1997

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_NhHMPu_S1
Organism: Homo sapiens
Organ: mixed (see below)
Tissue type: Pooled human melanocyte, fetal heart, and pregnant uterus
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: Equal amounts of plasmid DNA from three normalized libraries (melanocyte 2NbHM, pregnant uterus NbHPU, and fetal heart NbHH19W) were mixed, and ss circles were made in vitro.

Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from pools of 5,000 clones made from the same 3 libraries. The pools consisted of I.M.A.G.E. clones 260232-265223, 340488-345479, and 484488-489479.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

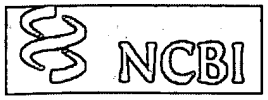
CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AA411711. zv16d08.s1 Soares...[gi:2069500] Links

IDENTIFIERS

dbEST Id:	**1054955**
EST name:	zv16d08.s1
GenBank Acc:	AA411711
GenBank gi:	2069500
GDB Id:	5976674

CLONE INFO

Clone Id:	IMAGE:753807 (3')
Source:	IMAGE Consortium, LLNL
DNA type:	cDNA

PRIMERS

Sequencing:	-41m13 fwd. ET from Amersham
PolyA Tail:	Unknown

SEQUENCE

GCAGCCGCCTCCTAAGAACCTGCTGCTGGGTCCCGGCAAGCCCAAGGAGCCAGCTGTGGT
GCGGCCGAGGAGCCTGTGGCAGCGGCACATGGCATGCCAGAGGTAAAAAAACGACGGCGG
CGGAACAGAAGCTGGCATCTCCCCAGCCATCCTATGCAGCAGACGCCAACGACAGCAAGG
CCGAGTACTCAGACGTCCTGGCCAAGCTGGCTTCCTGAACCGCCAGAGCCAGTGCGCTGG
ACGGTGCTCACCGCCCCGCTGCTGGACACCCAGTGAGCCGGAG

Entry Created:	May 2 1997
Last Updated:	May 17 1997

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
Possible reversed clone: polyT not found

LIBRARY

Lib Name:	Soares_NhHMPu_S1
Organism:	Homo sapiens
Organ:	mixed (see below)
Tissue type:	Pooled human melanocyte, fetal heart, and pregnant uterus
Lab host:	DH10B
Vector:	pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1:	Not I
R. Site 2:	Eco RI
Description:	Equal amounts of plasmid DNA from three normalized libraries (melanocyte 2NbHM, pregnant uterus NbHPU, and fetal heart NbHH19W) were mixed, and ss circles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from pools of 5,000 clones made from the

same 3 libraries. The pools consisted of I.M.A.G.E. clones 260232-265223, 340488-345479, and 484488-489479.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

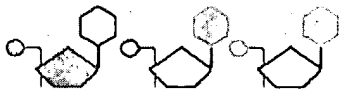
CITATIONS

Title: WashU-Merck EST Project 1997
Authors: Hillier,L., Allen,M., Bowles,L., Dubuque,T., Geisel,G., Jost ,S., Kucaba,T., Lacy,M., Le,N., Lennon,G., Marra,M., Martin ,J., Moore,B., Schellenberg,K., Steptoe,M., Tan,F., Theising ,B., White,Y., Wylie,T., Waterston,R., Wilson,R.
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: N73808. yz80g07.s1 Soares...[gi:1231093] Links

IDENTIFIERS

dbEST Id:	**479945**
EST name:	yz80g07.s1
GenBank Acc:	N73808
GenBank gi:	1231093
GDB Id:	3905244

CLONE INFO

Clone Id:	IMAGE:289404 (3')
Source:	IMAGE Consortium, LLNL
DNA type:	cDNA

PRIMERS

Sequencing:	m13 -40 forward
PolyA Tail:	Unknown

SEQUENCE

CTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAAAATGA
CACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTTAAGTT
AAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAG

Quality: High quality sequence stops at base: 144

Entry Created: Mar 19 1996
Last Updated: Mar 19 1996

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY

Lib Name:	Soares_multiple_sclerosis_2NbHMSP
Organism:	Homo sapiens
Sex:	male
Tissue type:	multiple sclerosis lesions
Develop. stage:	Age 46
Lab host:	DH10B (ampicillin resistant)
Vector:	pT7T3D (Pharmacia) with a modified polylinker V_TYPE: phagemid
R. Site 1:	Not I
R. Site 2:	Eco RI
Description:	1st strand cDNA was primed with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCATTTTTTTTTTTTTTTTTTT 3'], double-stranded cDNA was size selected, ligated to Eco RI adapters (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of a modified pT7T3 vector (Pharmacia). Library went through one round of normalization

to a Cot = 5. Library constructed by Bento Soares and M.Fatima Bonaldo. RNA from 4 multiple sclerosis lesions from one patient was kindly provided by Dr. Kevin G. Becker (NINDS/NIH).

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

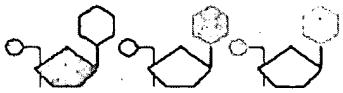
CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AI699181. tx61e11.x1 NCI_CG...[gi:4987081] Links

IDENTIFIERS

dbEST Id: **2603719**
EST name: tx61e11.x1
GenBank Acc: AI699181
GenBank gi: 4987081

CLONE INFO
Clone Id: IMAGE:2274092 (3')
Source: NCI
Insert length: 2085
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

GCTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAAAA
TGACACACCACTGTTGACAATGAAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTTAA
GTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCACCT
TGCAGGACCATAATCACATTTAAGCCACTGACT

Quality: High quality sequence stops at base: 200

Entry Created: Jun 3 1999
Last Updated: Dec 16 1999

COMMENTS

Tissue Procurement: Christopher Moskaluk, M.D., Ph.D.,
Michael R. Emmert-Buck, M.D., Ph.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Ut1
Organism: Homo sapiens
Organ: uterus
Tissue type: well-differentiated endometrial adenocarcinoma, 7 pooled tumors
Lab host: DH10B
Vector: pCMV-SPORT6
R. Site 1: SalI
R. Site 2: NotI

Description: Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.75 kb. Life Technologies catalog #: 11538-014

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

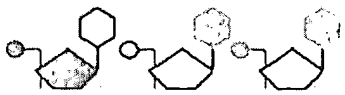
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: R50866. yg62h08.s1 Soares...[gi:812768] Links

IDENTIFIERS

dbEST Id:	**220931**
EST name:	yg62h08.s1
GenBank Acc:	R50866
GenBank gi:	812768
GDB Id:	410107

CLONE INFO

Clone Id:	IMAGE:37566 (3')
Insert length:	1925
DNA type:	cDNA

PRIMERS

Sequencing:	Promega -21m13
PolyA Tail:	Unknown

SEQUENCE

TTTTTTTTTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATAC
ATAAAATGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCT
TTTTAAGTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAA
TCACCTTGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAA
ANTTCACACTGCATCTNGTTACTATAGTATTTCTAGGGCATA

Quality: High quality sequence stops at base: 251

Entry Created: May 18 1995
Last Updated: May 18 1995

COMMENTS

Insert Size: 1925
High quality sequence stops: 251 Source: IMAGE Consortium, LLNL This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY

Lib Name:	Soares infant brain 1NIB
Organism:	Homo sapiens
Sex:	female
Organ:	whole brain
Develop. stage:	73 days post natal
Lab host:	DH10B (ampicillin resistant)
Vector:	Lafmid BA
R. Site 1:	Not I
R. Site 2:	Hind III
Description:	1st strand cDNA was primed with a Not I - oligo(dT) primer [5' AACTGGAAGAATTCGCGGCCGCAGGAATTTTTTTTTTTTTTTT 3']; double-stranded cDNA was ligated to Hind III adaptors

(Pharmacia), digested with Not I and directionally cloned into the Not I and Hind III sites of the Lafmid BA vector. Library went through one round of normalization. Library constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

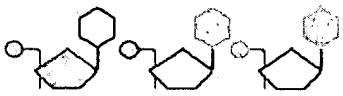
CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AI910763. wg96h11.x1 NCI_CG...[gi:5630499] Links

IDENTIFIERS

dbEST Id: **3032729**
EST name: wg96h11.x1
GenBank Acc: AI910763
GenBank gi: 5630499

CLONE INFO
Clone Id: IMAGE:2379141 (3')
Source: NCI
Insert length: 1427
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

GCTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAAAA
TGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTTAA
GTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCACCT
TGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAAATTCA
CACTGCATCCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGATTGAA
TG

Quality: High quality sequence stops at base: 297

Entry Created: Jul 28 1999
Last Updated: Dec 20 1999

COMMENTS

Tissue Procurement: Christopher Moskaluk, M.D., Ph.D.,
Michael R. Emmert-Buck, M.D., Ph.D.
cDNA Library Preparation: M. Bento Soares, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Kid11
Organism: Homo sapiens
Organ: kidney
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI

Description: Plasmid DNA from the normalized library NCI_CGAP_Kid3 was prepared, and ss circles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from a pool of 5,000 clones made from the same library (cloneIDs 1322376-1323911, 1456007-1456775, and 1500552-1502855). Subtraction by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

1: AI351615. qr07f12.x1 Soares...[gi:4088821] Links

IDENTIFIERS

dbEST Id: **2135429**
EST name: qr07f12.x1
GenBank Acc: AI351615
GenBank gi: 4088821

CLONE INFO
Clone Id: IMAGE:1940207 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTGCTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACAT
ACATAAAATGACACACCACTGTTGACAATGAAAAAAAAAAACAGCATTTGATATTTTCCAG
CTTTTTAAGTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAG
AATCACCTTGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAA
AAAATTCACACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCAATCACAGCT
GATTGATTGAATGCAATGTGATTGATTGATTGATTGATTGATATATACCAAAATTC

Quality: High quality sequence stops at base: 310

Entry Created: Dec 30 1998
Last Updated: Dec 30 1998

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_total_fetus_Nb2HF8_9w
Organism: Homo sapiens
Develop. stage: 8-9 weeks
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was prepared from mRNA obtained from pooled 8-9 week (total) fetus material with a Not I - oligo(dT) primer [5' TGTTACCAATCTGAAGTGGGAGCGGCCGCTTAATTTTTTTTTTTTTTTT 3']. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went

through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AA043474. zk54e09.s1 Soares...[gi:1521330] Links

IDENTIFIERS

dbEST Id: 658848
EST name: zk54e09.s1
GenBank Acc: AA043474
GenBank gi: 1521330
GDB Id: 3760378

CLONE INFO
Clone Id: IMAGE:486664 (3')
Source: IMAGE Consortium, LLNL
DNA type: cDNA

PRIMERS
Sequencing: -40M13 fwd. from Amersham
PolyA Tail: Unknown

SEQUENCE

CTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAAAATGA
CACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTTAAGTT
AAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCACCTTGC
AGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAAATTCACAC
TGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGATTGAATGCA
ATGTGATTGATTGATTGATTGATTGATATATACCAAAATTCATGATGGATCGTCACACAG
TGACAGCCATTGTACAAGTAA

Quality: High quality sequence stops at base: 301

Entry Created: Sep 4 1996
Last Updated: Sep 4 1996

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_pregnant_uterus_NbHPU
Organism: Homo sapiens
Sex: female
Organ: uterus
Develop. stage: adult
Lab host: DH10B
Vector: pT7T3-Pac
R. Site 1: Not I
R. Site 2: Eco RI
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' AACTGGAAGAATTCGCGGCCGCCTTTTTTTTTTTTTTTT 3'], double-stranded cDNA was ligated to Eco RI adaptors

(Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization. Library constructed by M. Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: H08164. yl87e01.s1 Soares...[gi:872986] Links

IDENTIFIERS

dbEST Id: **268044**
EST name: yl87e01.s1
GenBank Acc: H08164
GenBank gi: 872986
GDB Id: 417486

CLONE INFO
Clone Id: IMAGE:44945 (3')
DNA type: cDNA

PRIMERS
Sequencing: Promega -21m13
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTTTTTTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAAC
ATACATAAAATGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCC
AGCTTTTTAAGTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCA
AGANTCACCTTGCAGGACCATAATCACATTTAAGCCACTGGACTTGTTTGTTTGTTAATG
GAAAAAATTCACACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCAATCACA
GGCTGATTGATTGAATGCAATGTGATTGATTGATTGATTGATATATACCAAATTTCATAT
GGGATGTCACACAGTGACAGCCATTGTACAGGTAACGTTTAATGGACCTCCC

Quality: High quality sequence stops at base: 337

Entry Created: Jun 23 1995
Last Updated: Jun 23 1995

COMMENTS

High quality sequence stops: 337
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares infant brain 1NIB
Organism: Homo sapiens
Sex: female
Organ: whole brain
Develop. stage: 73 days post natal
Lab host: DH10B (ampicillin resistant)
Vector: Lafmid BA
R. Site 1: Not I
R. Site 2: Hind III
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' AACTGGAAGAATTCGCGGCCGCAGGAATTTTTTTTTTTTTTTT 3'];

double-stranded cDNA was ligated to Hind III adaptors (Pharmacia), digested with Not I and directionally cloned into the Not I and Hind III sites of the Lafmid BA vector. Library went through one round of normalization. Library constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

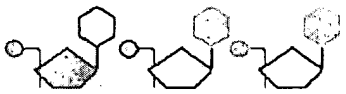
CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AI049699. an33d09.x1 Gessle...[gi:3298816] Links

IDENTIFIERS

dbEST Id: **1789149**
EST name: an33d09.x1
GenBank Acc: AI049699
GenBank gi: 3298816

CLONE INFO
Clone Id: IMAGE:1700465 (3')
Source: IMAGE Consortium, LLNL
DNA type: cDNA

PRIMERS
Sequencing: -40m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTTTTTTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAAC
ATACATAAAATGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCC
AGCTTTTTAAGTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCA
AGAATCACCTTGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGG
AAAAAATTCACACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGA
TTGATTGAATGCAATGTGATTGATTGATTGATTGATTGATATATACCAAAATTCATATGG
ATGTCACACAGTGACAGCATTGTACAAGTAACGTTAATGACCTCCAACAAACACATTTTA
AAT

Entry Created: Jul 9 1998
Last Updated: Jul 9 1998

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Gessler Wilms tumor
Organism: Homo sapiens
Sex: pooled (6)
Lab host: DH10B
Vector: pSPORT1
R. Site 1: SalI
R. Site 2: NotI
Description: RNA was prepared from a pool of 6 anonymous Wilms' tumor RNAs. RNA was prepared by acid-phenol, followed by one round of oligo dT selection. cDNA library preparation was with the BRL/Life Tech. Superscript Plasmid system. An oligo-dT NotI primer for first strand synthesis generated gcggccgccc(t)n at the 3' end of the clones. A 5' SalI adaptor was used with

sequence 5'-gtcgacccacgcgtccg-3'. Resulting cDNAs were size selected (average size 2 kb), NotI digested, and ligated into NotI/SalI-cut pSPORT1. Library was constructed by Dr. Manfred Gessler.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

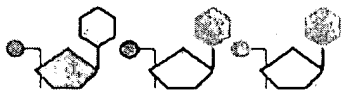
CITATIONS

Title: WashU-NCI human EST Project
Authors: Hillier,L., Allen,M., Bowles,L., Dubuque,T., Geisel,G., Jost ,S., Krizman,D., Kucaba,T., Lacy,M., Le,N., Lennon,G., Marra ,M., Martin,J., Moore,B., Schellenberg,K., Steptoe,M., Tan ,F., Theising,B., White,Y., Wylie,T., Waterston,R., Wilson ,R.
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AW592865. hg04b07.x1 Soares...[gi:7280057] Links

IDENTIFIERS

dbEST Id: **4025715**
EST name: hg04b07.x1
GenBank Acc: AW592865
GenBank gi: 7280057

CLONE INFO
Clone Id: IMAGE:2944597 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

TTTTTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAA
AATGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTT
AAGTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCAC
CTTGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAAATT
CACACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGATTGA
ATGCAATGTGATTGATTGATTGATTGATTGATATATACCAAAATTCATATGGATGTCACA
CAGTGACAGCATTGTACAAGTAACGTTAATGACCTCCAACAAACACATTTTAAATTAGAC
TGG

Quality: High quality sequence stops at base: 209

Entry Created: Mar 22 2000
Last Updated: Mar 22 2000

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_NFL_T_GBC_S1
Organism: Homo sapiens
Organ: pooled
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: Equal amounts of plasmid DNA from three normalized libraries (fetal lung NbHL19W, testis NHT, and B-cell NCI_CGAP_GCB1) were mixed, and ss circles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs

from pools of 5,000 clones made from the same 3 libraries. The pools consisted of I.M.A.G.E. clones 297480-302087, 682632-687239, 726408-728711, and 729096-731399. Subtraction by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AI041596. ox56h06.x1 Soares...[gi:3280790] Links

IDENTIFIERS

dbEST Id: **1780931**
EST name: ox56h06.x1
GenBank Acc: AI041596
GenBank gi: 3280790

CLONE INFO
Clone Id: IMAGE:1660379 (3')
Source: NCI
Insert length: 827
DNA type: cDNA

PRIMERS
Sequencing: -40m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

GCTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAAAA
TGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTTAA
GTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCACCT
TGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAAATTCA
CACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGATTGAAT
GCAATGTGATTGATTGATTGATTGATTGATATATACCAAAATTCATATGGATGTCACACA
GTGACAGCATTGTACAAGTAACGTTAATGACCTCCAACAAACACATTTTAAATTAGACTG
GTCAAGCTAAAAGGAATGTTGGAG

Quality: High quality sequence stops at base: 414

Entry Created: Jun 30 1998
Last Updated: Sep 24 1998

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_NhHMPu_S1
Organism: Homo sapiens
Organ: mixed (see below)
Tissue type: Pooled human melanocyte, fetal heart, and pregnant uterus
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: Equal amounts of plasmid DNA from three normalized libraries (melanocyte 2NbHM, pregnant uterus NbHPU, and fetal heart NbHH19W) were mixed, and ss circles were made in vitro.

Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from pools of 5,000 clones made from the same 3 libraries. The pools consisted of I.M.A.G.E. clones 260232-265223, 340488-345479, and 484488-489479.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

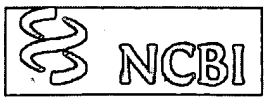
CITATIONS

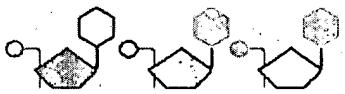
Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35





Entrez Nucleotide

PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo

Search Nucleotide for Go Clear

Limits Preview/Index History Clipboard Details

Display default Show: 20 Send to File

1: AW072470. xa06d07.x1 Soares...[gi:6027468] Links

IDENTIFIERS

dbEST Id: **3209709**
EST name: xa06d07.x1
GenBank Acc: AW072470
GenBank gi: 6027468

CLONE INFO
Clone Id: IMAGE:2567533 (3')
Source: NCI
Insert length: 1130
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

TTTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAAAA
TGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTTAA
GTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCACCT
TGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAAATTCA
CACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGATTGAAT
GCAATGTGATTGATTGATTGATTGATTGATATATACCAAAATTCATATGGATGTCACACA
GTGACAGCATTGTACAAGTAACGTTAATGACCTCCAACAAACACATTTTAAATTAGACTG
GTCAAGCTAAAAGGAATGTTGGAGCCAAAA

Quality: High quality sequence stops at base: 447

Entry Created: Oct 13 1999
Last Updated: Oct 20 2000

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_NFL_T_GBC_S1
Organism: Homo sapiens
Organ: pooled
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: Equal amounts of plasmid DNA from three normalized libraries (fetal lung NbHL19W, testis NHT, and B-cell NCI_CGAP_GCB1) were mixed, and ss circles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive

hybridization reaction. The driver was PCR-amplified cDNAs from pools of 5,000 clones made from the same 3 libraries. The pools consisted of I.M.A.G.E. clones 297480-302087, 682632-687239, 726408-728711, and 729096-731399. Subtraction by Bento Soares and M. Fatima Bonaldo.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

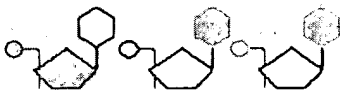
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AI573107. tr69f01.x1 NCI_CG...[gi:4536481] Links

IDENTIFIERS

dbEST Id: **2391435**
EST name: tr69f01.x1
GenBank Acc: AI573107
GenBank gi: 4536481

CLONE INFO
Clone Id: IMAGE:2223577 (3')
Source: NCI
Insert length: 3468
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: no

SEQUENCE

TTTTTGCTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACA
TAAAATGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTT
TTTAAGTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAAT
CACCTTGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAA
ATTCACACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGAT
TGAATGCAATGTGATTGATTGATTGATTGATATATACCAAAATTCATATGGATGTCACAC
AGTGACAGCATTGTACAAGTAACGTTAATGACCTCCAACAAACACATTTTAAATTAGACT
GGTCAAGCTAAAAGGAATGTTGGAGCCAAAA

Quality: High quality sequence stops at base: 405

Entry Created: Mar 29 1999
Last Updated: May 14 1999

COMMENTS

Life Technologies catalog #: 11548-013
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www-bio.llnl.gov/bbrp/image/image.html

LIBRARY
Lib Name: NCI_CGAP_Pan1
Organism: Homo sapiens
Organ: pancreas
Tissue type: adenocarcinoma
Lab host: DH10B
Vector: pCMV-SPORT6
R. Site 1: SalI
R. Site 2: NotI

Description: Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.72 kb. Life Technologies catalog #: 11548-013

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

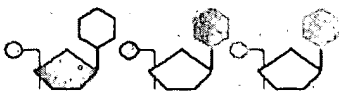
CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: AW770384. hl80d09.x1 NCI_CG...[gi:7702426] Links

IDENTIFIERS

dbEST Id: **4231435**
EST name: hl80d09.x1
GenBank Acc: AW770384
GenBank gi: 7702426

CLONE INFO
Clone Id: IMAGE:3007505 (3')
Source: NCI
DNA type: cDNA

PRIMERS
Sequencing: -40UP from Gibco
PolyA Tail: Unknown

SEQUENCE

TTGCTCTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAA
AATGACACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTT
AAGTTAAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCAC
CTTGCAGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAAATT
CACACTGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGATTGA
ATGCAATGTGATTGATTGATTGATTGATTGATATATACCAAAATTCATATGGATGTCACA
CAGTGACAGCATTGTACAAGTAACGTTAATGACCTCCAACAAACACATTTTAAATTAGAC
TGGTCAAGCTAAAAGGAATGTTGGAGCCAAAAGAAATGT

Quality: High quality sequence stops at base: 415

Entry Created: May 4 2000
Last Updated: May 4 2000

COMMENTS

Tissue Procurement: Chris Moskaluk, M.D., Ph.D., Michael R. Emmert-Buck, M.D., Ph.D. cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: Christa Prange, The I.M.A.G.E. Consortium DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL, send email to: info@image.llnl.gov

LIBRARY
Lib Name: NCI_CGAP_Kid13
Organism: Homo sapiens
Organ: kidney
Tissue type: 2 pooled Wilms' tumors, one primary and one metastatic to brain
Lab host: DH10B
Vector: pCMV-SPORT6

R. Site 1: SalI
R. Site 2: NotI
Description: Cloned unidirectionally. Primer: Oligo dT. Library constructed by Life Technologies.

SUBMITTER

Name: Robert Strausberg, Ph.D.
E-mail: cgapbs-r@mail.nih.gov

CITATIONS

Title: National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
Authors: NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI Entrez Nucleotide
PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo
Search Nucleotide for Go Clear
Limits Preview/Index History Clipboard Details
Display default Show: 20 Send to File

1: AA479302. zv21f08.s1 Soares...[gi:2207858] Links

IDENTIFIERS

dbEST Id: **1124337**
EST name: zv21f08.s1
GenBank Acc: AA479302
GenBank gi: 2207858
GDB Id: 5977197

CLONE INFO
Clone Id: IMAGE:754311 (3')
Source: IMAGE Consortium, LLNL
DNA type: cDNA

PRIMERS
Sequencing: -41m13 fwd. ET from Amersham
PolyA Tail: Unknown

SEQUENCE

CTCTTTGAGTAACTTTATTTTGGAGGAGTTCCATAAGCATTAGGAACATACATAAAATGA
CACACCACTGTTGACAATGAAAAAAAAAACAGCATTTGATATTTTCCAGCTTTTTAAGTT
AAAAAATGATTCAGTTAAAACAAAACAAAAGTTTAGATATTTTAGCAAGAATCACCTTGC
AGGACCATAATCACATTTAAGCCACTGACTTGTTTGTTTGTTAATGGAAAAAATTCACAC
TGCATCTAGTTACTATAGTATTTCTAAGCATAATCAATCACAGCTGATTGATTGAATGCA
ATGTGATTGATTGATTGATTGATTGATATATACCAAAATTCATATGGATGTCACACAGTG
ACAGCATTGTACAAGTAACGTTAATGACCTCCAACAAACACATTTTAAATTAGACTGGTC
AAGCTAAAAGGAATGTTGGAGCCAAAAGAAATGTAGTGGAAT

Quality: High quality sequence stops at base: 456

Entry Created: Jun 19 1997
Last Updated: Aug 8 1997

COMMENTS

This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares_NhHMPu_S1
Organism: Homo sapiens
Organ: mixed (see below)
Tissue type: Pooled human melanocyte, fetal heart, and pregnant uterus
Lab host: DH10B
Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker
R. Site 1: Not I
R. Site 2: Eco RI
Description: Equal amounts of plasmid DNA from three normalized libraries (melanocyte 2NbHM, pregnant uterus NbHPU, and fetal heart NbHH19W) were mixed, and ss circles were made in vitro.

Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from pools of 5,000 clones made from the same 3 libraries. The pools consisted of I.M.A.G.E. clones 260232-265223, 340488-345479, and 484488-489479.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

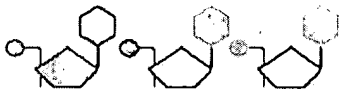
CITATIONS

Title: WashU-Merck EST Project 1997
Authors: Hillier,L., Allen,M., Bowles,L., Dubuque,T., Geisel,G., Jost ,S., Kucaba,T., Lacy,M., Le,N., Lennon,G., Marra,M., Martin ,J., Moore,B., Schellenberg,K., Steptoe,M., Tan,F., Theising ,B., White,Y., Wylie,T., Waterston,R., Wilson,R.
Year: 1997
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35



Entrez Nucleotide

1: R27957. yh57b02.s1 Soares...[gi:784092]

IDENTIFIERS

dbEST Id:	**198002**
EST name:	yh57b02.s1
GenBank Acc:	R27957
GenBank gi:	784092
GDB Id:	539557

CLONE INFO

Clone Id:	IMAGE:133803 (3')
Insert length:	820
DNA type:	cDNA

PRIMERS

Sequencing:	Promega -21m13
PolyA Tail:	Unknown

SEQUENCE

AAATTATATATTACATGTTTATTAAGAGCACAACTTTTATGTAAAATTTACATTTAATGA
AAAAAATCAAAAATATTTACAAAATCTTGGAAGACAGATGTGCATTGTTCTAATTACAAT
CCAAAGTAGTAAATAACAATCCTTTAAAACTCACATTTATTAGAGTTGTGTTTACAAATT
CTTGGTTAAAGAGGCAGCTACAAAGTTTATCACTATATATAAGCAAGAACCAGCTTGCTA
GGGTACATTTCCCATTGAAAATCTACTGGGTCTCTTTTACACCATTAGGGGGATTTTTAA
ATGGGGNAAAAAAAAATCAATATAAACTCATATGGGCTTCAAAATTGGTAACCTGTACCCC
NATACTTGGGGNATGGAGGGCTGTGG

Quality:	High quality sequence stops at base: 302
Entry Created:	Apr 25 1995
Last Updated:	Apr 25 1995

COMMENTS

Insert Size: 820
High quality sequence stops: 302
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY

Lib Name:	Soares placenta Nb2HP
Organism:	Homo sapiens
Sex:	Female
Organ:	placenta
Develop. stage:	placenta obtained at birth (full term)
Lab host:	DH10B (ampicillin resistant)
Vector:	pT7T3D (Pharmacia) with a modified polylinker
R. Site 1:	Not I
R. Site 2:	Eco RI

Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' AACTGGAAGAATTCGCGGCCGCAGGAATTTTTTTTTTTTTTTT 3'], double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization. Library constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

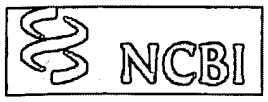
CITATIONS

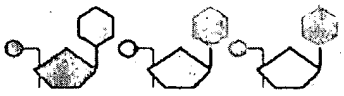
Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35





Entrez Nucleotide

1: H05625. yl70b12.s1 Soares...[gi:869177] Links

IDENTIFIERS

dbEST Id: **265505**
EST name: yl70b12.s1
GenBank Acc: H05625
GenBank gi: 869177
GDB Id: 415859

CLONE INFO
Clone Id: IMAGE:43318 (3')
DNA type: cDNA

PRIMERS
Sequencing: Promega -21m13
PolyA Tail: Unknown

SEQUENCE

TTTTTTTTTTTTTTTTTTTTGCTTCACAAATGTCAATTTTATTGACACTAGTGCACAACT
AAATACAATAATTGCAAAGGAAGTGGAACGTGTTCAAACAGAAATGGTGACAATGAGTTA
GAACTGCAGTTNTTTCAAGGTACTACACTATTATTTAAAAAAAAAAATCACAAANAGAAAA
ATGTTATCACTACAAGTAGGGATTTAGGAAGNGAGNAAATTCTGGGCAGTCTGTCTAGNA
GGGTTAAAACATTTCATGGCATTTGTGAGTTGCTGTTGGAGAGTTGTTTTTTATTTGTCC
ACCGTAATCTGGGCAACATCCGGGGGCTTACCTTCAGCTCTCGGCACTGTGCG

Quality: High quality sequence stops at base: 310

Entry Created: Jun 21 1995
Last Updated: Jun 21 1995

COMMENTS

High quality sequence stops: 291
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL ; contact the IMAGE Consortium (info@image.llnl.gov) for further information.

LIBRARY
Lib Name: Soares infant brain 1NIB
Organism: Homo sapiens
Sex: female
Organ: whole brain
Develop. stage: 73 days post natal
Lab host: DH10B (ampicillin resistant)
Vector: Lafmid BA
R. Site 1: Not I
R. Site 2: Hind III
Description: 1st strand cDNA was primed with a Not I - oligo(dT) primer [5' AACTGGAAGAATTCGCGGCCGCAGGAATTTTTTTTTTTTTTTT 3']; double-stranded cDNA was ligated to Hind III adaptors

(Pharmacia), digested with Not I and directionally cloned into the Not I and Hind III sites of the Lafmid BA vector. Library went through one round of normalization. Library constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

CITATIONS

Title: The WashU-Merck EST Project
Authors: Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P., Wilson,R.
Year: 1995
Status: Unpublished

MAP DATA

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH

Jul 8 2003 12:22:35

NCBI

Entrez Nucleotide

PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Boo

Search Nucleotide for Go Clear

Limits Preview/Index History Clipboard Details

Display default Show: 20 Send to File Get Subsequence

1: AC007962. Homo sapiens chro...[gi:5348397] Links

```
LOCUS       AC007962               172091 bp    DNA     linear   HTG 03-JUL-1999
DEFINITION  Homo sapiens chromosome 17 clone 2511_J_5 map 17, *** SEQUENCING IN
            PROGRESS ***, 25 unordered pieces.
ACCESSION   AC007962
VERSION     AC007962.1  GI:5348397
KEYWORDS    HTG; HTGS_PHASE1.
SOURCE      Homo sapiens (human)
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 172091)
  AUTHORS   Birren,B., Linton,L., Nusbaum,C. and Lander,E.
  TITLE     Homo sapiens chromosome 17, clone 2511_J_5
  JOURNAL   Unpublished
REFERENCE   2  (bases 1 to 172091)
  AUTHORS   Birren,B., Linton,L., Nusbaum,C., Lander,E., Allen,N., Anderson,M.,
            Baker,J., Baldwin,J., Barna,N., Beckerly,R., Benn,J., Brown,A.,
            Castle,A., Cerny,J., Colangelo,M., Collins,S., Collymore,A.,
            Cooke,P., DeArellano,K., Depayre,E., Devon,K., Dewar,K.,
            Donelan,L., Doyle,M., Ferreira,P., FitzHugh,W., Forrest,C.,
            Funke,R., Gage,D., Galagan,J., Gardyna,S., Gilbert,D., Grant,G.,
            Hagos,B., Heaford,A., Horton,L., Howland,J.C., Jones,C., Kann,L.,
            Karatas,A., Lehoczky,J., Lieu,C., Locke,K., Macdonald,P.,
            Marquis,N., McEwan,P., McGurk,A., McKernan,K., McLaughlin,J.,
            Meldrim,J., Molla,M., Morris,W., Morrow,J., Mychaleckyj,J.,
            Naylor,J., Niloff,M., O'Connor,T., O'Donnell,P., Pavlin,B.,
            Peterson,K., Pollara,V., Riley,R., Roberts,D., Roy,A., Severy,P.,
            Stange-Thomann,N., Stojanovic,N., Stone,C., Subramanian,A.,
            Tesfaye,S., Torruella-Miller,I., Vassiliev,H., Vo,A., Wagner,A.,
            Wheeler,J., Wu,X., Wyman,D., Ye,W.J. and Zody,M.
  TITLE     Direct Submission
  JOURNAL   Submitted (03-JUL-1999) Whitehead Institute/MIT Center for Genome
            Research, 320 Charles Street, Cambridge, MA 02141, USA
COMMENT     All repeats were identified using RepeatMasker: Smit, A.F.A. &
            Green, P. (1996-1997)
            http://ftp.genome.washington.edu/RM/RepeatMasker.html.
            * NOTE: This is a 'working draft' sequence. It currently
            * consists of 25 contigs. The true order of the pieces
            * is not known and their order in this sequence record is
            * arbitrary. Gaps between the contigs are represented as
            * runs of N, but the exact sizes of the gaps are unknown.
            * This record will be updated with the finished sequence
            * as soon as it is available and the accession number will
            * be preserved.
            *        1     2475: contig of 2475 bp in length
            *                     gap of unknown length
            *     2476     4789: contig of 2314 bp in length
            *                     gap of unknown length
```

```
            *     4790     7000: contig of 2211 bp in length
            *                    gap of unknown length
            *     7001     9027: contig of 2027 bp in length
            *                    gap of unknown length
            *     9028    11768: contig of 2741 bp in length
            *                    gap of unknown length
            *    11769    15071: contig of 3303 bp in length
            *                    gap of unknown length
            *    15072    19326: contig of 4255 bp in length
            *                    gap of unknown length
            *    19327    22239: contig of 2913 bp in length
            *                    gap of unknown length
            *    22240    26006: contig of 3767 bp in length
            *                    gap of unknown length
            *    26007    30364: contig of 4358 bp in length
            *                    gap of unknown length
            *    30365    34450: contig of 4086 bp in length
            *                    gap of unknown length
            *    34451    38286: contig of 3836 bp in length
            *                    gap of unknown length
            *    38287    42572: contig of 4286 bp in length
            *                    gap of unknown length
            *    42573    47699: contig of 5127 bp in length
            *                    gap of unknown length
            *    47700    54016: contig of 6317 bp in length
            *                    gap of unknown length
            *    54017    60547: contig of 6531 bp in length
            *                    gap of unknown length
            *    60548    68280: contig of 7733 bp in length
            *                    gap of unknown length
            *    68281    75214: contig of 6934 bp in length
            *                    gap of unknown length
            *    75215    80915: contig of 5701 bp in length
            *                    gap of unknown length
            *    80916    87222: contig of 6307 bp in length
            *                    gap of unknown length
            *    87223    94562: contig of 7340 bp in length
            *                    gap of unknown length
            *    94563   106577: contig of 12015 bp in length
            *                    gap of unknown length
            *   106578   119209: contig of 12632 bp in length
            *                    gap of unknown length
            *   119210   141857: contig of 22648 bp in length
            *                    gap of unknown length
            *   141858   172091: contig of 30234 bp in length.
FEATURES             Location/Qualifiers
     source          1..172091
                     /organism="Homo sapiens"
                     /mol_type="genomic DNA"
                     /db_xref="taxon:9606"
                     /chromosome="17"
                     /map="17"
                     /clone="2511_J_5"
                     /clone_lib="CITB Human BAC"
BASE COUNT    44773 a  39840 c  42000 g  44968 t    510 others
ORIGIN
        1 agtcagaaac tttaaaaatt aaaggttttt gttattttta ttttatttt gagacagagt
       61 ttcactcttg ttgcccagga tggagttcag tcgtgtgatc tcagctcact gcaacctccg
      121 cctccaggtt caagtgattc tcctgcctca gcctccgaag tatctgggat tacaggtgtg
      181 caccaccaca cctggctaat ttttgtattt ttagtagaga tggggtttca ccatgttggc
```

```
 241 caggctggtc tcaaactcct gatctcaggt gatctgcccg cctcagcctc ccaaagtcct
 301 gggagtacat gtgtgagcca ccgtgcccgt tcttaaaaat taaagcttat aaaataaaaa
 361 tgttgcaata agctatggtt aattcattat tgaagaaaaa tattttaaaa taaatttgag
 421 tgtagtttaa gtgcacagta tttatgtagt gtacagtaat gtcctagact ttcacattca
 481 tgcccactca ccactcacac actgactctc ccagagcaag tcctgaaagc tcctgcattt
 541 atagtaagtg ccctttatctc agaacgggga tattctcatc actagttgtg gtaatatcct
 601 cagttcacaa attcagctgt gcaaaaatat aaaacttaat ttttctataa ttcaacctaa
 661 tttctgtttc aagcttccca ttcagctgtt atagaaactt atgtcctgta tagaagtgtc
 721 attttttttt ttttttgag acagagtctt gctctgtcgc ccaagcctgg agtgcagtgg
 781 gcgcgatctc ggctcactgc cagctctgcc tcccgggttc acgccattct cctgcctcaa
 841 cctcccgaat agctgggact acaggcgcct gccaccacac ctggctaatg ttttgtattt
 901 ttagtagaga caggggtttc actgtggtag ccaggatggt ctcgagggcc tgacctcgtc
 961 atccgcctgc ctcggactcc caaagtgctg ggattacagg catgagccac tgcgcccggc
1021 cagaagtgtc atttttaaat aatcttttat gtcacacttt tactgactct tttctatgtt
1081 tatatacaca aatactccct attgtgttac aattgctgac agtattcagt acaccaccgc
1141 gatgtccagg tttgtagcct gggagcagta ggctatatgc tatagccttg gtatgtaata
1201 ggctatacta tccaggtttc tgtgaagtgc acgcgatgat gttcacacaa cgaaattgtt
1261 taacagcaca tttctcagag tgtatcccag tttttaagtg atgcctgact atatttcttt
1321 tgcaggtctg ttattgctat ttatctcttt atttgtaata ctttggtgtc atttagtttt
1381 agctcttttg cttttaaata gtacatgagt tgctcttata taaatagtta tagatgctct
1441 taaatagcaa ccatttttt aaaaatcaaa tttaagaatc tcttttaatt ggtaaattta
1501 atatgtttgc attatgtaat agataatcta tatttatttc tgctgtttta ttttggtttc
1561 ccaacttcct attttttctt tattttcctt tccttgtttc tcatggggtt gatcaagttg
1621 tttttgttgt tatttcagat atgatatttt tcctgtgctg gacttaaaat tacattttct
1681 ataactttat tagcaaacat acatttttta agcaatttcc agcacaaatc tgtaaataca
1741 tccctctggt tgactgagat gaaaccttag catagtttta ttatgagttg agttgggtga
1801 ggccatgtcc acccatttt ccccccaccc accttgataa catcacctag aatttttatt
1861 tcaaattgtt gaccacaccc cttccactat atcagccctc ctgaacatgg agatgcagcc
1921 gtgaagacag acagggagac aattacagat ttcttaactc attcaggcag ctataaccaa
1981 ataccataaa ctgaatagct tataagtaac acaattttat ttctcatgat tctgaaggct
2041 gggaagtcca agatcaaggc aacagtagat tcagcgtgtg gtgagggcct gcttcctgat
2101 caatagatga tgccttttca ctgtgtcctc accggatggt gagggcctgc ttcctgatca
2161 atagatgatg ccttttcact gtgtcctcac cggatggtga gggcctgctt cctgatcaat
2221 agatgatgcc ttttcactgt gtcctcaccg gatggtgagg gcctgcttcg tggtcaatag
2281 atgatgcctt ctcatcatgt ccttacatgg taggaggggc aagggatgtc cctgcagcct
2341 tttttatcag ggcactaacc ccattcatga gggctccacc ctcctgacct aatcacctcc
2401 caaaggcccc acctcctcat actatcatct tgggggtgag gatttcaact tatgaacaca
2461 aacattcaga ccatacgttg tgcacatgta ccctagaact taaagtataa taaaaaaaag
2521 tattgtctac ttatctattg ggtcataata ctttctctct catacatttt aataaactct
2581 ttaagtaaca ttgctatcaa ctcttcctgt atcaaagttg gtgcaactat ctttttccat
2641 ctagcatttc attacatttt ttttttgaca tatgggagtt tttgttttgt ttttgctgtc
2701 ttctgtctgt tttatctttt gtggtttctt ctattgcttc aaagctgaca ctggtccttc
2761 ttcgtagagg taataaatat tccatttttct gctaactttt ctatttttaa aaataaattc
2821 agctctttca tccatctgta gtctatttca ggagaagccc caagctctat taaaattctt
2881 ccatactctc tggtttcaca acatcattta ttttaaatta ttattttaca aaacgatcta
2941 atgtctaaca ggttcggctg tgggatttac tctttttttct tagactgccc tttgaaatcc
3001 tacatccgtt tgtttttcct gaatcagttg tgttcagaga agtactgttg agattgattt
3061 ggggtaggct atgtttgtga attcacctaa ggtagtgaga cattttcata ataccaaatg
3121 tgctcgtctt gtctctcccc acccccactc tattaggatg tgcaactttc ctgantaaag
3181 gtcanggcgg ccgggcgcgg tggctcacgc ctgtaatccc agcactttgg gaggccgagg
3241 tgggcggatc acgaggtcag gagatcgaga ccatcctggc taacacggtg aaaccccgtc
3301 tctactaaaa atataaaaaa atttgccagg cgtggtggtg ggcccctgta gtcccagata
3361 ctccggaggc tgaggcagga gaatggcatg aacccaggag gtgaagcttg cagtgagctg
3421 agatcgcgcc actgcactcc agcctgggcc acagatgcga gactccgtct caaaaaaaaa
3481 aaaaagttca ggcatatgtt tgttcctaag tatgttagat cacttttttg tgtagtaaat
3541 ggtttttttc cattatattt tctagctagt gtggtgttca ggactatcaa tttttatgta
3601 tgtagtttgc atttgtcctc tcccttaaac tctttaattt gtgaatttgt actgattctt
3661 ttgtattcac tatccataca aatgttctca tgttgtccct ttttttcccc aagttatttt
3721 atcttgcctt actaaattga ctgggatgtc caaataagat taaatcgcac cactacctta
3781 aatccttta ggaacttggt agggtttaag ttaacttggt ttttgtttgt ttgtttgttt
```

```
3841 tgagagagtc tcactcttgt cacccaggct ggaacgcagt ggcgcaattg cagctcactg
3901 caacctccat ctcccggatt caagtgattc tcctgcctca gcctcccaag tagctgggat
3961 tacaggtgcc catcaccatg cctggctaat ctttttttctt ttttttgta tttttagtag
4021 agacggggtt ttaccatgtt ggccaggctg atctcaagct cctgaccgca gatgatcaat
4081 ccacctcagc cttctaaagt gctgggatta caggcgtgag ccacggtgcc gagccttaac
4141 ttgttaatga attatcagtg tgataacagg ctttctttttt tgttcctaat tttaaagcta
4201 ctggtgtttc accagtgcaa tttttgcatt gaaataggta tgttttatcc tgttgaaaaa
4261 tccttgaatt cttaggttat aatttttttta atgactgcat tttatcgaat tatatttggg
4321 gtgattatta agatgagttt aacatcctcc attctggcct tcatttttttt caacaatcct
4381 ttgtggattg aatgtggaat gaataatgaa attctcccct agtgacagag ctggaattgc
4441 aacccaggta ttccaattcc acctcccacc ttacttggca aaattaacgt ttcagaaggt
4501 atgtttccat tttcaaaggc gtgaacatcg cttattgctg gaggatccgc aaacacaggg
4561 agataaatga tgtgttttcg atagaatttc ctgtgttgaa ccctttttcag ggcacacagg
4621 ttttaattgg aattagcaaa ataggccata cccaagcttc tccaagagtg actattaaac
4681 tttaaaaact tactaagact ggagggttca cccgggaagc ggacgttgca gtgagccgag
4741 atcgcgccac tgcactccag cctgggcgac agagcgatga ctccgcctca ccgcactcca
4801 gcctgggtga cagagtaaga ctccgtctaa aaaaaaaaag aaacaggccg ggcgctgtgg
4861 ctcacgcctg taatcccagc actgggaggg gccgaggcgg gtggatcacg agatcaggag
4921 atcgagacca tcctggctaa cacggtgaaa ccccgtctct actaaaaata caaaaaatta
4981 gccgggcgag gtggtgggcg cctgtagtcc cagctactcg ggaggctgag gcaggagaat
5041 ggtgtgaacc ccggcgggtg gagcctgaag tgagccaaga ttgcaccact gcactccagc
5101 ctgggcgaca ccgagactcc gtctcaaaaa aaaaaaaaaa aaaaaaagat gcagaaataa
5161 aaaaataaga aatctacccg cagcacaggg aacctacaaa tggtcaatgg cacaggacac
5221 attgttcaat ctctttagta agcagagaga tacaccctaa agcaatgaca agggtccact
5281 acccacctat tagttttcaa atgtggtaac ataaagtgct ggtcagggcg tnnggagaga
5341 cggccacttc tctcctcact tgcggtggga gtatatacat gggtacaggc tttttgaagg
5401 acaatctgtc agtatctgat gaaagtttaa acagcttggc tctgtttaaa gggagagagg
5461 aggacaagga ttgttccccct caccttccaa tctcctgcct gtgccccact ttggtggaca
5521 ccagttgcaa tggagccggg aaacnccagt ggaccagggc tcggcctccc tggcagcctt
5581 ccctgccagg aagaagggag caagggcagg gaacagatgt gacaataaac ccacacagga
5641 ccagctcagc tgtgttcctt tgtttgtggt ttttacacac accattcatg ttacctgtag
5701 agcgtagtct ggtgtgtgat tagaccacag ttggtgggga tgtaaattag ttcggcctct
5761 gttgaaagca gtttggagat gtctcaagta acttaaaaca gaactaccat ttgacccagc
5821 aatcccatga ctgggtgtat atccaaaaga aaataaatca ttctaccaaa aagacacgtg
5881 cactcgtatg ttcattgcaa tgctattcac aatagcaaag acatggaatc aatccaggtg
5941 cccaaccaca gtgggttaaa ctttgaaaat gtagtgcata tccaccatgg aatactacac
6001 agccataaaa aagaataaaa tcatgtcctt tggagcaacg tggatgcagc tggaggccat
6061 tatcctaagc cagttaatgc agaaacagag agccaaatac tgcccattct cactattagt
6121 aggagctaaa catttggtac ccgcagacac aaagatggga acaataaatg ctggggtagg
6181 tagggaggag gacaagggtt gaaaaactat cagacactat gttcgttact tgggtgatgg
6241 gatccttgga agcccaaacc tcagcatcac acaatatacc catgtaacaa gcctacacat
6301 gtacaccctg aatctaaata tttttgaaat taaaaaaaaa tagaccacag cctatgtatc
6361 cattttcctg tttctgaaca ccgagactca cctctagctt tgtggaattt caaagtgttt
6421 tacaaaatat gactgtacac cattccctgt gtacacaaat acaatgctct ctaggacaga
6481 tggcgtagac acgggattgc tgggttgagg agatggaaag gtaaggcaaa ggaagtgcca
6541 tggtattgcg ttcatgctgt ctgccttgga cagaatctgt agaaatggct gattcccttt
6601 gtctgtggct ccactttcta tcagacatcc ccttccacag gctctgctcc caccaggtga
6661 ccctggctcc tgggctccag tcacaccggc tccttacttt gtccacagct ctggggtgga
6721 gcggctctct cccttctctg ggccatctcg ccttccctgt cgccctttca gctccttgca
6781 caccttggta gcttgctccc tgtattagcg ttttcctgtt aaaacacatc cgcaagagat
6841 tttgttttcc tggatgaaca ctgactcata cataggccac agtcaggagt ttggagggca
6901 accaagtgcc aagaatttta tgcagaagag tgtcatgatt tagtatctga cctaaaccca
6961 tgatgttggc catggtgtgg aggttaaatt gaacaaaagc cagagcccac gctgcacagc
7021 accgcgcctc ntccggcaaa agcgatgttc aggccctctg cgagcagcac ccgtggggag
7081 ctcagtgacc ttctcgctcc catcatccct tgggccacag tttctaaagc agccccacaa
7141 acactcacct gatttcggcg tcagacctat gaggcaggta gggaggggtt cttcctaaca
7201 tcctcatctt acaaatggaa acggaggcac agggagggtg agtaaactgc ctaaaattca
7261 cgcagctaga aagtgtaaat gccgatagaa ttccaaatct gtgtcttttt atttttatga
7321 gacagagtct ccctctgtta cccaggctgg ggtgcagtgc tgcaatctcg gctcactgca
7381 acctccgcct tccgggttca agcgattctc ctgcctcagc ctcctgagta gctgggatta
```

```
 7441 caggcgcaca ccaccacgcc cggctaattt ttgtgttttt agcagagaca gggtttcacc
 7501 atattggtca ggctggtctc gaactcctca cctcaggtga tccacctgcc taaacctccc
 7561 aaagtgctga gattacaggt gtgagccact gcgccctgcc tgaaatctga gtctttccta
 7621 ccacaccaca ctgtcttcat gcaagataat ctgttctcct ttcaagcttg aaatacagaa
 7681 ttcagatgtc tgcaattgaa ggagttaagt gcgcatttgt ttaaataact tgaagcttcc
 7741 aggcatgtgg gaatttgcat gggctgctgc aggctgggtg ggggacaggg aatcccttgc
 7801 tgtcccagct tttttaattc tcacagagtg gattgttcat tctgatcctc ttggtgaccc
 7861 acatgctgag cagagcgatg ggtgggtggg cagaggggag aggagagggg gccacctagg
 7921 cttgcnttgg cagagggctt tggttctacg ggtgaaaact tggttttggc agcttgtttg
 7981 cgctactcct agcgtgctca ggggaagtca ggaggttttg tgcatgttcc aatgcctgtg
 8041 ggatgtaaga aaaagattct gggtccaact ccagctccag gcacccaagg gcaagctctg
 8101 cctggaggga aagttgggct tatctgccag gccaggtgag gaggggctgg aaagcaggaa
 8161 agaagctagc tgaactcatt ctgagtcaag aggaaacaga cgtgagccac cctggaaggc
 8221 tgtaagggac gctttttttt ttttttttt ttgagacaga atttcactct tgttgcccag
 8281 gctggagtgc aatggcaaga tctcggctca ctgcaacctc cgcctcccgg gttcaagcga
 8341 ttctcctgcc tcagcctccc ngtgtagctg ggactacang gtgcgtgcca ccacgcccgg
 8401 ctaatttttt gtatttttag tagagatggg gtttcaccat ataggccaga tggtctcgat
 8461 ctcctgacct cgtgatccgc ccacctcggc ctcccaaagt gcagggatta caggcgtgan
 8521 cgatcgctcc tggcctcgcg ccttagaaaa atcattcttt aatcccacct ttccctctag
 8581 ccaccagccc atctccctgc ctccccccctc accccaacaa tagaacttaa aatagctgta
 8641 ccctggcagt cctcactccg tcacctccta ctcaccctct gacccaccct ggtctggctc
 8701 tgcccccacc tccactggaa ctgcatctgt ccttgaccat gtgtccactg ttgcccaccg
 8761 ctgacctctg cgccgcttgg ccaaaccttt ctcagacttc tctcttgcct gtgggcctct
 8821 aaactctgct ctcccccaag cctgggcatg cacaagaaag tagaaatcac cccgcaccaa
 8881 ccaacctctc ctgggaatta ttgaccagag tggacatttc ccagacccac tgggcatgag
 8941 ctcttgtgtg tccagcttcc cctcggaata ttctgcctct ctctgcttgc tcctgctttg
 9001 ctcagtgaaa gataccttc tgtttgagca gacttgggga gaggatttat gtgggtcatg
 9061 caatggcaac tgagtctgga gtcaggaaat ggactggaac ttgaagctga gtttgggtct
 9121 aggtgaacag acaagggccc aacagccatc ggcctatggc tggccttagg aatcagtctc
 9181 tagccagact caagggccac caggctaagt tcaggcaaca gtctttcctt tgtgataaac
 9241 gaatggaacc agccccgttg gtccctcttg ccagccctga gnctctgccc tgcagagtgc
 9301 cgtggttaca ggttataatg ggtctaaatc tgtgatgtgc ctgtaagctg gttctcagta
 9361 tgcgacaggg agagctctgg tttgtactgt ttgccaattt ctgtgatgta aacactccca
 9421 ctataggaga ttttaagctc ccaatggttt tagaacgggc tcacaacaac tctaaacatt
 9481 taacagcttc ccatggtgag cggccgtgag ctggtctgaa gtgcctgcca cgtgtcacat
 9541 cttgttacac atgggcccta ctgcacagcc cccatctcca cagccatttc tctacttact
 9601 ttgacctagt aataccgtag gtaaagnaaa ggttggaaac agaaccctca atgaatcaca
 9661 caggacttca gctacagaaa gcagtcaaca ctttcaaatc agtggattta gatgtgaaaa
 9721 gcccagactg aaaatccaaa cacaagcttc aagtccccat ttgaccacgt cctggcggtg
 9781 agaccctgaa catgacttac catctctgag tctcagtttc ctgatctatt aggagactaa
 9841 aaagagaatg tatcatcctg tttccaccgt atctagacca taacgtatgt ttatgtaagg
 9901 accttgtctt ttctttctcc agcgtcagtt tctccgtctg taaaatgggg ataactaatt
 9961 gctacctggc tgactatgga aagaatttat gtgacataac aaaggtgagg ccgggtgtgg
10021 tggctcacgc ctgtaatccc agtactttgg gaggctgagg cgggcagatc atgaggtcag
10081 gagattgaga ccatcctggc taacacagtg aaaccccatc tctactaaaa atacaaaaaa
10141 ttagccgggc gtggtggtgg gcgcctgtag tcccagctac tcgggaggct gaggcaggcg
10201 aatggcgtga acccaggagg tggagcttgc agtgagtgga gatcgcgcca ctgcactcca
10261 gcctgggcaa cagagcgaga ctccgtctca aaaaaaaaaa aaaaggtgaa aaaaatctgt
10321 gggagaaata agtgaagagg gaagtctgat tctgttgaac ccacctctct cagatgtgtg
10381 tgtgtgtgtg tgcagcacac acagacacac agtcagttgt gagggccttg acattaggaa
10441 ccatttccct ggcacatgac aagtgtctgg caactactgg gtgagctgga agtatcagaa
10501 aaagtaaacc ttgttataga cacaaggtga aaatactttt cctaccagag ctggaaagat
10561 cctctcagag aaatctcagt taaagccctt tatcttattg taaaatatat aagtaaactg
10621 aggcccagag aaggaaaaga actcatcaaa gtcacacgct gagtccctgc tatggcttgg
10681 actggaagtc gcatctccct gcacccagca ccagcaccca aggctcccag caaccagggt
10741 catcacccaa ctcccagcac ccaggcggtc acccagctct cagcacccag gccataacaa
10801 agcacacagc gccaggcacc caggccaacc gccaacaaac acaagtccac ccgcaaaaat
10861 cccacccgag cagtgagttc caattatgct atgacagcca actggtagct gatatgcctc
10921 ctcattctgg aactgtccct ggaccttccg gcctctagaa tcaacagtcc agggccccag
10981 cactcaccgc tcagcacacg catcctggca gtgggagaca gtcatctttc tcaagtcata
```

```
11041 aaacacagct cctttcagag tcctctcatg gccatcgtca ctgaagcatc caatgtaggt
11101 gcctgcagaa agggaagcat ggctaatacc agaggcccag gaatcatggg cccaccctta
11161 ggaaaagcca ggggaacctc tgccttcctg gccaaggcca ctctcagaga aacccgggag
11221 atgagtgctg caggctacct ccctcccact cagtgctgag caaagtgagc atctgacacc
11281 tcccacttgt ttgtttcctg cccatttttct ctttttttaat ggcccactgt ccaccctgac
11341 ggctctgcca ggagccaggc gtcggcctga ccactgcttt cttccactac cccaactcag
11401 aagttgggaa ggctggatta cctctcatgg actctacccc tcctctctag ccctgccctc
11461 cctgggctca gagaggcctc tctaccttgg caaatgccct gagagacagg gtcgttgcct
11521 ccttgggggc cagagagaag aaatcagtta gggcaagttt gattttagca aatttaagga
11581 agatctttca aaccgggaaa gctaattcaa gaaaaagtct gtcgttccca agagggagta
11641 agaccccatc tctggagtgt ggccgcagag tctgttaaga aagggagcaa gtgtcctgtg
11701 tggggaaaca acagggccaa gtgaccccac aagcctctcc aggctggtca acctgcacac
11761 atccctggtt actctcatgg ttctgaaagc caagaagccc agaagtccaa aaccaagggg
11821 tcttcagggc cacattcctt cggaaggctc tagagaaggg ttcattcctg gcctcttcca
11881 gcttctgacg cttcaggtgt ttcctgggct tatagctgca taactccatc tctaccttnt
11941 gtctttacag ggacttcttc tctgtgtgct ggtgtcttct cttcttctgt ctcctataag
12001 gacacttgtc attgggttta ggggctaatc caggaggatc tcatattaag ttgagatcct
12061 taatttcatt gtatccacta agacttttt ttttttttt tttttgccaa ataagatcat
12121 gttcacatgt tctaggggtt aggatgtaga caaatctttc tagggatcac cattcagccc
12181 actacagata ctaatgccan acatcgctga atgagattat aaatgtaaaa gaaccggcca
12241 ggcacggtgg ctcatgcctg taatcccagc actttgggag gcggaggtgg gtggatcacg
12301 aggtcaggag atggagacca tcctggccaa catggtgaaa ccctgtctct actaaaagaa
12361 caaaacttag gtggggatgg cggtggacgc ctgtagttcc agctactcag gaggctgagg
12421 caggagaatc gcttgaacct gggaggcaga ggttgcagtg agccaagatc acgccactgc
12481 actccagcct gggtgacaga gcaagactct gtcaaaaaca aaaacaaaaa caaacatgat
12541 atgttctcag taaatcttag atgattccag gaggcatgtg atagggatgt gcagatgaaa
12601 ttgcgtgaat ggtatggctc cacctcatct tggtggaatg atagaatgcc tcatggtttt
12661 tttcagtgct ttgggtcctg atgatttggt tctgtttatg gttgcttgct tcaggctgag
12721 catctgaggc taggagctgg catggtttcc ttatctttgt gctggccctg cttcctccct
12781 cctgcctacc catgtttgtc ctgaaacccc agtaggcaca cggtcttctc agagcctgaa
12841 gtcgcccagt ctgcctttgg ggaggcaggt tttcaggcct gcctttcaat accatctctg
12901 agagctgtag tcatcaaggc gtttgctcaa caatccaact ctcttcctct gcttctgagc
12961 acatgagagg gtcacacccc ctgattcctt ttgattgggt gcagctgtgt gactggttcc
13021 agccaatgag tttgaacaga catgacaggc ttcagtttga ggctggaatg tgcagatgct
13081 ggtgtaagca cctcaagagc tgtctttcaa acatgcagtg atccagaaag tggctggccc
13141 atgagcttga gtctcaacgg aagagggtgt ggagcaagat ngggtctcca tagacagggt
13201 gcatgaatga gatgggcacc tcggtgtttc taagccactg agatttccag gatgcataac
13261 ctcacctctc cagactgaga ctccgaggaa gagagagaag cagagactgg aaggtgcctc
13321 aggaggcagc tcaggggaaa cgctggccat gctagagact ctgaataagg tgcgattctt
13381 agagaacatg ccatgctctg atctgctctg gggtcttggt gattcatgga ttcacagccc
13441 atgagcacaa tggaaacctc tcctctgggt cagggttagt cacatggaac ctcaggaagg
13501 caataatgca aaacctgcat tagcaatgga tcccaggctc aaggaattgt ggacttgatt
13561 ttgactcttt aggtttccaa agtaatctct ccaaaagcaa tgttggtttc ctggattcaa
13621 ttgtgcaaca gaagaggaca tgcgtggaga cataggggaa acccaaataa aagtctgtag
13681 tttagttgat agcattgtgc ccgtgttaat acctcggttt tgacaaatgg acccagatta
13741 tgcaagaaat tattaacatt agaaaagctt ggtgaagcta tgctaacttt caactcttct
13801 gtaaatctaa aattatatca aaacaaaaag ttttgaatat aatttctcac tgcttaattg
13861 acatggagtt tccttttgcg gatgatgaaa gtgttttaaa actagataga ggtgttggtg
13921 gcataatatt gtgaaaggta ctaaacgcca gtgaattaga cacttgaaaa tgggtgatct
13981 gtaagggacg tgaatatttt ctccatttaa aaaaaattat aaggacaaaa aagaacaaaa
14041 ccaaaaatct ctcatggcca cagtagagca gcaaataata ccacaggtgc ttgtggtctg
14101 caagagtctc agacttaatg gcagctccaa acttccctct ttttcgttac ctactttgct
14161 ctgtttccca aatgcctcct ccctccctct ctccacaccc acttctaatt catggcccag
14221 aagccttccc aaaccacctc ctcctcagtt cctctccccc ccagccncat cccacctgct
14281 gtgtctatca gttcttccca caaagtatgg ggaaatggtg gcaatgactc cactcaacat
14341 ggtcccaggg cattaggcta agcactttac atcaatcagt tgatccgtgg gaacaaactg
14401 tgaattaaaa gccattatta cgtcctattt tataggtata aacagagggg tggtcaagag
14461 gaaggtcaag ctgcttccag gtcatctaga tgaagagtag tagcagtgga attgaaacac
14521 gcatcatctc tctccagcgt ctgggggggtg aaattctggt aaattccata gaaacaaaaa
14581 tcctctgcct aaaatggtgc agtgggggtc aaccaatgag agtttctccc attctctact
```

```
14641 tcattcattc atcaaacatt tctggaatga gtactgtgtt ccaggcactg cactaggctc
14701 tgggattcca gcatgaacat gaccttgtcc ttgaccttgt tgaacttaca gtcaagtggg
14761 agaggctggc agtaagtaaa caaaacacat gcacatataa tgtaagttga aggcagaaat
14821 ctggtgctac ggcggaaaat gaaggacagg ctcttaattt aggttgggag accctggctg
14881 aggaagagaa atgtcagtca gccacatgaa gaatgggtgg tgagtggaca gggggaatct
14941 caagaaagag gacagcctgt gaaaaggccc tgaggtcggc atgggcttgg ctcttttgag
15001 gacctgggtg agtggtatgg caagacccgg aaagttccag aacaagaaag gcaagatagc
15061 gttgacaaga taagaaaata acccagagag aggctgaaat aggatctgtt caagtgaata
15121 ttaaaatggt aaccaatacc caagacaaaa attgtgcacc taatcaaatc agttctttca
15181 tttgtctgca ttgccttctt ctccctttc ctgctaattt tttacctgta tgaatgcatg
15241 atgtaataga tagaaccttt tctttttat ttaacattat atcatgaata tttttccatt
15301 tttctgtagt ctttttttt ttttttttt ttttttgag gcagggtctt gctttgccac
15361 ccaggctgga gtgcagtggt gcgatcttgg ctcgctgcaa cctccacctt ctgggctcag
15421 gtgatcctct ttctcagcct cccgactagc tgggactgca ggcgtgtgcc aacactccca
15481 gctaattttt ttttttgaga tggaatcttg ctttgtcgcc caggctggag tgcagtggcc
15541 ggatcttggc tcattgcaac ctccgcctcc caggttcaag tgattctctt gcttcggtct
15601 cccaagtagc tgggattata ggcatggact gccatgccca gctaattttc atatttttag
15661 tagagatggg gtttcaccat gttggccagg ctagtctcaa actcctgacc tcaactgnat
15721 cctcccacct cagcctccca aagtgctggt gttacaggtg tgagccactg tgcccggcct
15781 atagtttttg tatcttattt ttccccaatt cttctccttt tactactttc ctgttcagcc
15841 ccctgatata gtaaccagtg acagcctggt agtatccatt cacaccatta tcacaccatt
15901 cacatataaa tatataaaag cgtatgtgta tatatctata tttctgtctg tgtctatacg
15961 tctatagata ctagatataa aaatttgggg gccatcattt gtttttgcaa aaatgtaata
16021 aaatgatttt tctgtgtttt ctattcaatt tgcccctaaa tgatgcaaaa cattcattcc
16081 ttttgaaggc aaatctaata ttctctagtt ggggaatctc cagaatgagg tgtatacact
16141 gtacccgcac aaggaaaaca tatgaaaaat tttatctcta tttattttga tctcttctct
16201 ttaaaatttc tattttctgg ttgtttatcc tacactaaag gtatccacac atgcaaataa
16261 atatccatct tttggaagtg catgctatca tcaaatgagc aatcagaaat gcttagagac
16321 cactagtcta cagaatcagg gaacaactta tttacacatt tccctttga tggatatcca
16381 ggctgttctt agacgctgca gcaggtacca ctacaaacta tgctttgaca agcattactc
16441 tacacagata tttacatatt agtgcttttt tatttttatt tattttattt ttttgagat
16501 ggagtctcgc tctgtcgccc aggctggagt gcagtggcgt gatctccact cactgcaacc
16561 tccgcctcct ggattcaagc gattctcctg cctaggcctc ctgagtagct gggattacag
16621 gcaccncgcc agcatgcctg gctaatttct gtatttttag tagagacggg gtttcaccat
16681 atcaggctgg tctcgaactc ctgacctcgt gatctgtctg ccttggcctc ccaaagtgct
16741 gggattgcag nacatgagcc accatgtccg gccgtgcttt ttgttctata ggacagattc
16801 ccagaagtac aattcctgat tcaaagggtt tggctagtgt taatttaac tgatatgggt
16861 ggtctgctct ccacattgtc tgtagcaatt catgtccccg ccaccagcaa tgtatgaaac
16921 acttatttcc tgcatctgta aagattttaa gagttattac tcttttcaac ttttgccaat
16981 ctgatcagag gggtgagaaa tggcgttcag gccaccttca tgtataagca aaggcatcgg
17041 atcagacaac ctctaagatt ggtctagctc aagtgtccat atttctcaaa ttatttttt
17101 tcataactta tctcgtagca ggtgtgtgct tacccccat tcactgactg tttgcaaatc
17161 ccagagacat ctttgaaaaa attgccagaa accaacacat caagaactgg aaagaaagaa
17221 agttgaatag agtccagaaa atcatcttgc caatactgtt tagcttgtaa aaaccatcta
17281 agccaaatcc ctgcgatttc atccagaaca aataataaaa aagcagtgtg taatatttct
17341 aagatgagca tattcatagt aaatatttta agatccatgg ctgcacaaaa tgcattttcc
17401 ttggaggttc acttttcaaa tggcttcgta ttaaaagtgc catttcaaca aatattcatg
17461 gggaaattca tcgatgtgtt ttaccattta tagctaaaat ttcaaaggac ttaggaaaaa
17521 aaggtatgat gcatatccta ccctcttcgg agaagtggtg aaaaatacat gctatgcttt
17581 ggttttctct gactgtaaaa ctcccaggca agtatctaca cttttcattc ccactcttct
17641 ctggctattc ctggggtgga tggcagcctg gtcagaggac aatcagcaag gactaaggga
17701 ggaaggggaa gtgagaggtt aggaaagcct aggcgccaag cctctccaaa gtctccggag
17761 ctcttccaac agctaccatc tggtgagcat ttaatgcaca cacagcagct tgacagaaac
17821 actctatatt ctctcactgc aacctcacta tcagcctgtg aagtagttat tattattatt
17881 gagatggagt ttcgctcttg taatccaggc tggagtgcaa tggtacaatc tcagctcact
17941 gcaacctcca cctcccaggt tcaagcgatt ctcctgcctc agcctcctga atagctggga
18001 ttacacgcac cccactacca tgcccagcta catttttttg tatgtttagt agagacaggg
18061 tttcaccatg ttggacaggc tggtctcgaa ctcctgaact caggtgatcc acccgccttg
18121 gcctaccaaa gtgctgggat tacaggcatg aaccaccgcg cctggccaat agttaccatt
18181 attatcctgt tttgcagata agaaaatggg gcctcagaaa agtcaagcga tttgtccctg
```

```
18241 aggtcacaca actagttaac aagtagaaag gggatgcaga ctcaggacta tctagcttcc
18301 acttgctata ttattagtcc ctctgggcct caatttccct tctatagctt ccccagatct
18361 aaaggagccc cactggggct gtagagaatc gaagaaagtt tggtataagg tgctaaatgc
18421 tttcttcatc taccccgccc gcttggtctc cgggaagcac gaattggctg cctgctctgg
18481 aacataaggc atncccacgg cccctgtgac antcatcctt cttggcccct ttgcctccgc
18541 aggagagcaa acccccacag acnaaagaat tgaaaatctg gtcacttnat tccagccaat
18601 atttctcagt ctttggtagg catattcatt tttataatgg caagttttac cctcggtaat
18661 gnatcagatc caatccttct cttgtttgag ttgctgaaac cactcaccat ggcccaggag
18721 aataaaaccc acaggctcca cttggcttgg cactcaaagc cctctgcaac ctgcccacat
18781 aaccatcttt ttgcatggat gcagtcttgc attgatgctt cagccactcc acatggtacc
18841 tcttccacct gcctagtatg tctttcttcc ccttctctga ctattcaaat cttaaatatc
18901 gttcaaggtc caacttgaat gaatctgcct cctccaggga gcattctnct gctctcccag
18961 gctgaatgaa tgggcttctc ctctggaatc cccacagttc catttccacc attcggcttc
19021 taaccatnca ctggcatttt ttcatatctg cttttgcaac tggcctgtga gctcctgtgg
19081 ggcagtggca atgttattta catctgtttc tacagcacca actcattatt tggctcaaag
19141 taataatgac aggccaggtg cagtggctca cacctgtaat cccagcactt tgtgaggcca
19201 aggcaggcag atcgatcact tgaggtcaga agtttgtgac cagcctggcc aacatggtga
19261 aatcctgtct ctactaaaaa tacaaaaaaa attagccagg tgtggtggca cacacctgta
19321 atcccaaggc agagtttgca gtgtgctgag atcacaccat tgcactacag cctgggcaac
19381 aagagtgaaa ctccatctca aaaaataaaa ataaataata aaagtgtgcg acctaacaac
19441 tacagaatac acagtttttc aagtgcatat ggaatactct gggccataac aaatgtctct
19501 acaaattttt aaagattcta gttatacaaa gtatgttttc tgaccacaat agaatcaatt
19561 tgaaatcaat aatagagcag tattgggaaa gtccctaaat acttgtggac taaataacac
19621 agttctaaat aatgatgggt caaagaagga atcaaaaagg aaattaaaaa gcatttccag
19681 ctaaataaan aacacagcat atcaaaacgt gttgggtgct gccaaagtag tacttggagg
19741 taaacgtgta acactaaaca cctgcattag aaaagatgga aagtttcaag tcattcagat
19801 caatgatctc agcctccacc ttaaaaaact agaaaaagaa gggccaatta aatccaaagt
19861 aagcaaaaca aagtaataaa aaagatcaga gcaaaagcca gtgggattag aagcagagca
19921 acaatagaga aaattagtaa aaccaaaagc cagttcctta agaagatgca ttctagatag
19981 actgatcagg aaaaaaagag tgaagacaaa aattaccaan tagaggtagc attcatcaat
20041 tctacagata ttaaaaagat aatgggaaaa tatcatgaat gactatattc caataaattt
20101 gacatcttag atgaaacgta taacttcttg gaaaaatcta aagtacaaat tatcagttga
20161 gaagtactag gtcatttgaa gagcccaaaa tctattaaag aaattgaatt atttgtttgt
20221 ttttaaataa aaagtcttct cacaaagaaa actccaggcc caaatgactt catttgtaaa
20281 ttctaccaaa cacttaaggg agaaataata tgaattcaac tgaaactctc agaaaattta
20341 aanagattat tcttaactta ttttattagg ccagcattac cctgatacca aaaacagata
20401 cagacattaa agaaaagaaa actacaaatc aatattttta tgaatataga ttccaaaatt
20461 tcttataaaa ttttagcaaa tttaatccaa caatatatta aaagaataat atatgataac
20521 caagtaaaat ttatccaagc atgcaaaatg gttaagcatt ttttttaaaa aaacaattat
20581 ttatcatgac aacaaacact taaaaagtaa aactctacga tcatttcaat agaggcagaa
20641 aaagcatttg acaaaatcca acatcaattc ctgatttaaa aaaaaaaaaa accctaggaa
20701 tagaagaata tttcctcaat ccaataaagg aacgaggcaa agatgactgc tttcaccatt
20761 tttagtaaac attccactga aggttctaat cagtgaagta agtcaagaaa aagataaaag
20821 gcatccagag tggaaaggaa gaattgaaat tgtctttatt tgcacacgac attattgtct
20881 gtggaaaaac gttttatgaa aatctaccga aaaaagcagg ataactaaaa agcgacttta
20941 gcaaggttgt aggatatagt caaaattcag aaatcaactc tatttctata tactagtaac
21001 aatcagaaag agaaactaag aaataatatt acaatagcat caaaacatga aataaataga
21061 gataaatctg acaaaagaca tacaagacgt gtacactgaa aactgtaaaa cattcatgag
21121 aaacattaaa gatgacctaa ataaaaggag agatatattg tgttcataga caaaaagact
21181 caatactgtt aagacgttaa ttctccccaa aatgaacttt aaattcaata caatcccagt
21241 taaaattcca gcaagctttt taaaagagaa gctaccaaaa tgaatcagaa attcatatga
21301 aaatgcaaaa gacgtggggg ggtcaaaaca actttgaaaa tgaagaacaa agttggaggg
21361 ctaatatttt ctaatttcaa gagttattat aaagctacag ccatcaacac actatggtgt
21421 tacaaacaga tcaacagaac agaatacaga atccaaaaat aagtgaacac acatacggat
21481 aattgaattt tgacaaacgt gcaaaagcaa ttcaatggat aaaggatagt ctttttaaca
21541 agcagtgcta gaacaattgg atgtacatgt gcaaaaaaat gaactttgat gtttctcttg
21601 caccatatta tgaatgtttg tgttccttaa aatttatatt ttgaagcctc aatccccaat
21661 gtgatggtat ttggagatga agtctttagg aagtgattag gttaagatga gatcgtgagg
21721 atggggcccc cataataaga ttagtgccct tatcagctga aagaggaaga gaccagagct
21781 cactctctct ctttgctatg tgaatataca acaagaaggc ttccgctgac agtggaagac
```

```
21841 agctttagca ggaactagtg ggagcaatag caggaccaaa taaaccaaac cgaccaaaat
21901 aacaccacag aagttctgaa agttaaacca tcactggaac tgtatcccac aaaaagtaag
21961 ttaggaccca gtgtgtgatg tccccccttcc tgtgtccaaa tgttctcatt gttcagttcc
22021 cacctatgag tnaagaacat gcggggtttg tnttttttgt ccttgcaata gtttgctgag
22081 ttgggggggag gggggnaggg atagcattag gnagatatac ctaatgtaaa tgnacgagtt
22141 agtgggggca ggacaccaac atggcacatg tatacatatg taacaaacct gcacattgtg
22201 cacatgtacc ctagaactta aagtaaaaaa aaaaaaaaac tgacctgtta cagaaaaggt
22261 gtgcctgccc ttgatgtaaa ccatgagaac tgcaaagctg tagttgcctc caaggatttt
22321 atgtcgtgat cgtgaccaaa gatgcccagg ggaccatcca gtggggagat gtgaagtatg
22381 tcctggccgg gttctggtct ggtttttgtg gctgggtgag ttttggtaag cagcttttc
22441 tctctgagcc tcagtttccc tatctgaaag gggaaacaag tggagtaagt gattttataa
22501 ttcccatcag ctgggagcca ctgggtttgg gtttaagcag ttctttatcc tgtcggaggc
22561 tctgtgaccc tacaaaagct nctgtgaccc ccgcaggtga gctttgtggt ctcagagagg
22621 ccttgtgatt actctagcga gcccagagaa ggaggccatg agaattatta gggcaaccga
22681 ggcccgggca tgnccaaatt atttcccctg gtgatgccct tttgcacaga atttagcact
22741 ggaaatgaag accatatgtg cccagcaaca aaacatccca atgaaaaatg gaaaacgaag
22801 gcgctgcttt gtctattaaa tgccaaacat ccaggacttt nccgcataag cagatgctga
22861 tcaccaccct gtaggagagc ggctcataga gtagaaagcc tgcaggtctg agttcgggcg
22921 cggtgactca tgcctgtcat cccagcactt tgggaggctg aggcaggtgg atcacttgag
22981 gttaggagtt cgagaccagc ctggccaaca tggtgaaatc acatctctcc taaaaataca
23041 aaaattagcc gtgtgttatg gtgcgtgcct gtagtgccag ctacttggga ggctgaagca
23101 ggagaatcac ttgaacccgg gaggcggagg ttgcagtgag atgagatcaa gccactgcac
23161 tccagcctgg gcgacagagt gaggcgctgt tgaaagaaag aaaggaagaa agaaagaaag
23221 aaagagagaa agagaaagag aaagaaagaa agagcgagca ggagtgagac tcaggagact
23281 gttcttccag aaggctctgc cacgagtagc cagaggtcac ctcagtcaag tcatcaccct
23341 ctttgtatca cagtgttctc accttcaatg aggatgatga taacctccac ttgggggcat
23401 tgggaagact aaatgagatg atgggtaaaa acatagtctg caacatgtag aancattccc
23461 taaaatatta ttactagctt gtcttcacgt ttgcacagaa attcatcatt tgtacagttt
23521 tcacacagac caactcattt gacaagaaag cagaacccag agaattttaa tgacttaccc
23581 caggacacac agataataaa tggtcgagtt gggactcaaa tccagagctt ctgatcccac
23641 tttcaaagct ctttcccct cagcatactg ctctttcctc ttgttaatct tgttcacatg
23701 tccccattgt ccctcagtga cttgttacag ctggtgctca ttaaatgtgt gcagatggag
23761 aaatcagtta tagtttttag ttcttcctgc tgctccctgt ggagaggtca tcctccctct
23821 gcctccctcc ccangagcca tcgcatcctg aattccacct ttcgggccct ttggccttct
23881 gaacttccct tgtcatccac cgtgaggcct tccactgnta gcttncctgg caagaatgag
23941 cactgcctga actgggaggt ggcaaggcaa ggggcgaatc acagagatta tgttcctggg
24001 anggctgcac tgccccatac acacaggtgg caaacattta aaggaagact ttaactatat
24061 ggtgaaggag ccctatagtt atggttgtga gaagcaatat ttttcctcct ggtcctcgct
24121 aggcttcctc ctcttccttt tttttctatt tttatttatt ttatttttaaa ataatttttgg
24181 ctggagtgca gttgcatgat ctcagctcac tgtaacctcc acctcccagg ttcaagtgat
24241 cttcctgcct cagcctcctg agtagctggg gctacaggtg cgcgccacca tgcccagctt
24301 atctttgtat ttttagtaga gatgggtttt caccatgttg gaaaggatgg tctcgatctc
24361 ttgaccttga gatccacctg cctcggcctc ccaaagtgtt gggatcattg gcatgagcca
24421 ccgcgcctgg cccctcctct tcctttctag ccctgggctc caaacttttg ccctcacaga
24481 tgctccttct agactggcca agtgtaggta tttcccaggg tggaagggag ggggcagaaa
24541 gaagagtaac gggaccaccc ggacgccatg gacagagaac ccacggagcc ggtggtatcc
24601 atgatgtgga gtccagggac gccctgggca aagcaagccc tgaggaatga agctgctctc
24661 cctgtgtggg gctcctgcag cgggtagagc atcactggga ggtgcaaatg ctcagaaata
24721 gaagaaaact gtggggcctc ggagcaagag ctcccttgtt ctttctgcca gtctttttgt
24781 ccctgagctc tagagattca gagacgagta agaccacgtc tcaaaatcga gtgggaaggc
24841 agagacgaaa gctaaactta tcatttacaa ggtagagaaa taaagaacca catcatggcc
24901 agatgagaac aaagcctgag ggagaataaa accactttgg gcatgcgaag ccttggaaac
24961 aggagctcct gggcaccctc tccaaacaag ttacttcaag acatatgtcc gtaaaatgag
25021 gaaaacatca aaaaaataaa aagaaagaaa gaaagaaaaa gaaataaaga aagaaagaga
25081 aagaaagaaa gaggaagata tagaataaac aaactggtat aaaaaatcca ggggtcaaat
25141 gagaaaaaaa tacttcagac ttgtgtacca tatctagaca gcagtcagtt tgtagagcca
25201 gaacctatga gttcccaagg gggaaaaaaa ataaatcaag gaaaagagaa ggccattcta
25261 agcaatgttt ggaaccataa acaacaaaag aattttgaca tctgtaataa gcaaagaact
25321 ccctatacat caataaggga aaagagaact agccagggtg taataaaagg caatctcacc
25381 aggcgcagtg gctcacgcct gtaatcccaa cactttggga ggttgaggtg ggtggatcac
```

```
25441 ctaaggttag gagatcgaga ccagcatggc caacatggtg aaaccccatc tctactaaaa
25501 atacaaaaat tagccaggtg tggtggcagg tgcctgtaat cccagctact cgagaggcta
25561 aagagggaga atcgcttgtt tctctaccta gatttcttta tttataccag gaggcacaag
25621 cttcagtgag ccaagattgc ataactgcat accagccagg gcaacagagt gagacagcat
25681 ctcaaaaaat aataataata attgtaattg ccatgagact acagaaaaag ttaacatgta
25741 taaaaattac ataaataaag acaacctaag actgggcaca gtaaatcatg ccggtaatcc
25801 aagcaccttg ggaggaagaa gcccagcgat aacccaaaac aagcaaggag aaaaaagcca
25861 ggccaacagg gggaaaacgc agacctacaa aaaaaacaaa aaagaagctg acactgcagg
25921 caaacgacgg taaaaccaac gaaacgagag gccaatgcag aggaatcgct tgaacccggg
25981 aggcggagat tgcagtgagc agaggttttg ccttcaaaac gcagtgcaaa caccaaagtc
26041 gggaggaaat gccaggtgaa atcagtctga gcctccactg ggctcccctg gccccccctgc
26101 acacgcccca agcccagcac tgcccactgt tctcaggaca ggacctggca tggacaggtt
26161 ggatgcagtt ggctgcatgt ggggacacac agggagggcc agaactcacc taaacagggc
26221 tggtggactc atcttaactg tggcacagtg ggaagaatgc agttttggag atgcttgtgt
26281 cagggttcaa atgctggtgc tgtcactttc tgggggtgtg cactaaggca agtcacttaa
26341 ctgcactgta aaatgcaatg taaaatggta attattaagc ttaccttgca aggtcactgt
26401 gaggaataga tagaattatg tgatgtctag cacacactga atggtaggta ttcaataaat
26461 agtagttata gggcccactt atcattggtt gtctgtctgt ctgcctattc atccatctat
26521 ccatccatcc atgcatccat ccatccatcc atccatccan tccaatactg attgaatgtt
26581 tcccacgtgc tgggcataat gctaggctgc agatgtggaa atgagtatcc aggacaagct
26641 aggtctcccc ctcctgctct gatatttgaa gtggccctag tttccgtctc acctctccca
26701 gtgccacctg acctggtgct gctctaagct agtgggatga aactctggcc tggctcaggc
26761 cacccagaga aggagcatca tttccttctg cacctgcctg cctggtgcat gtgggcctgg
26821 actgccctga ggtgggcctc agagatggga aagaggctca agatggtgct gggcagggcc
26881 tgagccactc agagacattt ctgcagcagc cttcatggcc ctgccacact ggccgccact
26941 tacctggcca taccccaacc cttcctccaa ctcctcactc ctatccagct gatctactca
27001 ctcttccact tgccctccca gagggctgtt gtgaggacta aatgaattga tgtaggtaaa
27061 gttctagaac cttcctggca tgcagtgggc actgcagaag cattcaggtc cactattcta
27121 ccatcaaata atcaagatga ctcatgcagg ggcatcaatg ccctcagttc acagtcgtgg
27181 aaacacactg agagacagaa tgagggtcgc ccaaggacaa tgtctgggaa gaggcgagag
27241 agactggaag ccaatttgga ctgcagtgaa gggctgaggt cgggctcttt caataaaaac
27301 atattattac tgccctgagc tgtttacacc tccctctaga tcagctgcat agccagagtg
27361 gggaggtgag aagtgggcaa gggagctgaa gcggtgctac ccttctgtgg gggtttgatg
27421 cagctatagc acccccagcc aacacacaca cacaacatac gcaacacaca atcctgagaa
27481 atcctccctg gaaagcttcc cctgcagatg catggacatg agtcagaagt cagccatcgg
27541 ccgggcacgg tggntcacgc ctgtaatccc agcattttgg gagacggagg tggatgaatc
27601 atgaggtcag gagttcaaga ccagcctgac caacatggtg aaaccccgtc tctactaaaa
27661 atccaaaaat tagccaggcg tggtggtgcg tgtctgtaat cccagctact caggaggctg
27721 aggcaggaga atcgcttgaa cccaggaggt ggaggttgca gtgagccgag atcacaccac
27781 tgcacgccag cctgggtgac aaaatgagac tctgtctaaa aaaaaaaaaa aaagtcagcc
27841 atcaactgca gttgtgcctg ggtagctcct tggtgaggtg ccttttggaa acacctccta
27901 gcaccccagg tagttcccac tcccaggtcc ctccatccca gacaccaagc tggaggattt
27961 acaaacatct catgccccag gagctcagag ttaggtgttt attcttgtcc atgtcccaga
28021 caaatgtcct gtgactcaga gaggggggctt actcagggac aatgagagga cgagtggccc
28081 agcgagataa gaaacaagta tcctgagccc ttatctagga ctttcctccg ctttcttgtg
28141 ccaagtcctc aatgtctcag ttgccttggg agctccctat attcctgggc cctgagtaca
28201 aaagaattga gcaagacagg gcatccacaa gggctctttc aattnggctg tctcctccat
28261 cccagccttg gggggntcat tctatcacac accacatatc ccctcnactc ggatccaagg
28321 accctctgtg ggcttacctg atccatctcc cagcacctca caaacacccc cagcccggct
28381 gccttttacg gagctgaatc ggcccaagac ctccctatca catgagttcc attccctctc
28441 aaaggtgact tggtgacact gttcagaacg gacccacctc aagcttcggt tgtttgtgat
28501 ctaatgagga gccttttaat tataacatct gttgttttaa ttaccaaagc aattacaatg
28561 acgctcccgg aggaagctgc tgccagagta gaagctggag aagaattcgt cagcatcaga
28621 gccccgacag gatccctggc acggtggctg ccactgagtt gtgacccgtc atggagagta
28681 cttcatcttc attttaaata agcttcgggg gtgagacagc cagactccgg attcaaggga
28741 gctgactgcc cgtatcctga aagaggctct gctttaggna agcctcggat tttgtggatg
28801 gnagagaagg caaaaagaca aacacngcca ttttgctgat gctgatagag gcacacattg
28861 gccactcaat aagcaggtgg ggacaagagc ctgggcctcc ctactgtgca gctgtgtgac
28921 cttagcacga tcagcagatg tcggcagatt ttagttttct cacgtagaaa atgaaagtga
28981 tggtcaagtg caatggctca tgcctgtaat cccagcactt tgggaggcca atgcaggagg
```

```
29041 attacttgag atcaggagtt tgagacaagc ctgggcaaca tagtgagatc ccatttctaa
29101 aaaaaaaaga aagaaaaaag aaagcaagaa agaaagaagg aaagaaagag aaagaaagaa
29161 agaaagaaag aaaggaagga agaaagaaag aaagaaagaa agatgaaaat gatgccatct
29221 ctttctctct caatgaaatg attcatccct gacattagaa cctgggttta gagtttgtaa
29281 gccatgttca catccatcag atagaaagaa ctgtgtatat tgtaagatga atttcacaca
29341 gacagagggt ccatgatgaa ggtgaggata cgaaccttgg tggtagtgag gccaagttca
29401 taatggtggt gagagtgatt atgtttctga gatagcaatc atgcccatta tctcagctct
29461 ttacccttc tgtatccatg cccattgaag ttcctctccc taaagagcgt gagtcttttc
29521 tcccactgaa tttggacagg tcttgcaact tgctgcattt aaaagaatgc aggagaaatg
29581 atgataagcc tgttccacac ctaggtctcg gcagatcttg cttgcttctg cttcctctct
29641 gcttctccac cacaaccctg agaacttgcc caggcttgcc tacagagaat gagattcaca
29701 tgaaggagag ccaatgccat tctagatggg ccaacagccn accagctgcc agacacatga
29761 gtgagcccag cgaagatcag cagagcggct gggcctcctg ncagctgacc ccagacacac
29821 gcacaacaaa tgcaatgctt gtaggttaca gaggataagt agcaatttta tgtagcatta
29881 tantggtaat aaataataga tacactcctc canggttctg aagcaattcg agtaatagag
29941 acaagaaaca gacaggtaac aaaacagttt ttgttttgtt ttgtttctcc tagtaagact
30001 tggttggaaa atgctacttg aaacttctga accaaacctg gatttctacc caaattgaat
30061 gtacccatcc atgactgccc aggtgagatt atcatataca ggggaggaag aaaaacacct
30121 gcagccatag tcaggctggt caaaaagaga gaatgatcca gagaaaccca gcaactcatg
30181 ctcaatcctt taacagaacc tcaggccagt caagacactt ctcccctagg gaggaaagag
30241 caaggggata gagacaaggg taaaaacgat gaccccacaa tcccaagagg gctgaaattc
30301 ctattcacat ctataatggg gccatgacag aaatttaggg caagaaagaa aacggctcat
30361 actacccaaa ggcaaggcaa tggatgaggt tcatcccccc ggaaggtggt gactgctctg
30421 ccccatcacc acatggaggg gctcagaaca gagcacagaa gaaagatgtt tacaatggaa
30481 gcctccgtag aagaatatag aggaggaacg caggaatgga agaccaagag gccatcttgg
30541 catcttcccc catcaggtgg gatgggctgg ggaaggagag gaaccaggga ggaggtggtt
30601 tgagaggcct tctggaccat gaattagaag tgggcatggc gcagagggag cgagaaagca
30661 tttccgaaac agagcaaagc actggtggtg tcatcatgga gatgcggtct aggaggagga
30721 gcaggttttt gagaagaaag gggatgtggg acatccagna ctctgggatc ccagtgagac
30781 acctgtttct gcaggtcgct gggaacatga gattggagtt agagaaggag gctgggggtg
30841 gcaagaggat agagaagtca gcagcctgaa atgatggcca agtccatgag aatgggtgta
30901 tgtagtaagc gggagtttag agaagggagg gagaagctat gagaatagaa atatggaaga
30961 agagaagctg gtgcagggag cagaggcagc ccatgaagag aggtggggca aggaccagac
31021 cttagtgacc tagtaatcaa aaagcactgg ggggcaattg gttgctctca acncattgct
31081 gaagtgtggg gatggatgag agcacagaaa aggcaattca ccctgctaat tggatattgg
31141 agcaagatag agaaagcaat ttaagtgcag tggtgggggt ggaaccgaga ttttgaggaa
31201 tggaggagta aattgggtga gaggaagtgg aggcagtgaa ggcaggggga tgggagttgg
31261 ttgaggaagg attccttcag gacaggggaa atctgagtgc tgggaagcag ccaggggcaa
31321 ggactagagc aagcatgaag ataaacaagg gaagagactg cagagcagac aggagggcag
31381 gacgtgtagg gggccagtgg aaggtctaga cacattgggg gtctagacac attggaagac
31441 tagacacttt gtgcgggaca gtactgagtg aatgtctatc caagaatcaa ggactttggg
31501 gacaagtagg gcatctggtt gggagctgca catctcagtg ggaggagtga gaggcttgct
31561 cagtcagcag gtgggcaggt ttgaggactg tcctcagcac tgttttgtca atgaggtatg
31621 tttcagagga ggcagacagt ggagattctg gaaagtgcag tgtctgaggt tgtaactgtc
31681 ataaaccgag caagcctggc tttgagtatc tccagtcctc agggagctgc aggatcaacc
31741 agatgctaga tcccagaccc ttaccttcct aaaaggccaa ggactagaag cccagaataa
31801 aaagaaatgg ggagggttgg gaaaacccta atttaggatt tgctaaatta ggccctgtgc
31861 taaatatttc atgtaagtca tctcatgtaa tccttataat atctttgcga ggaagatggg
31921 aaggagtatt agtgagatca aacggctgag ctgggattca cagccaagga aggcagaacc
31981 caaactcatg cttgctcctc atgcaagctg cctccaggtc acagagagct ccagctaaaa
32041 gagtatttta gcgatgcctg gtcacctggg agtctgggta tctaaaatga tgtgaaggga
32101 aataaggtga gttctctgag gctggaaagg gctgacttcc tactcagatg atcagaatga
32161 taaataagct catctcactt ttactgttct gcctctggct gccagagacc tatcatcttg
32221 ggggaaactg aggcagcata gcccttggtc cttacatcac aatgcaaaat tcttagaaca
32281 tgatcaagct ccacacgctg gccagacagt ggtccccttc tctcctggct caggagcctg
32341 atagacccag gaagaagagg gtgaagcctg acttccaggc gagtcagcaa agaggagtca
32401 gtccccttcc gatggatggc attaaacaat gagagcctca tcttctaatc acattacctc
32461 accgcagggg gtgtttccag gcccattatc acatggcgtg gttggctgga tctccatttg
32521 tcacagcaaa cgtcaggcat gtggtaatgg tcctgtaaaa catgccctgt ntgggtctta
32581 atgtctattt aatgacacct gctatgaagg ctcccataac tgaactcata atgggaaatg
```

```
32641 aggggaaatt agattttgga gaaggagagt tctctgaacg acaggctgcg tctccccagg
32701 agaggctgta ctaggttggc tgggggtggc tggtatgaaa ttatagaatt taattgcagg
32761 agactctcta agggatgggc tagccaaaag tcctctatgt tctaatggag atgggcaggc
32821 tgaggccccg aggaaatggg ggacataaat ggttccagtg gggaaagatg gaataccaag
32881 cttgatttgc atttctttta ctgngccatt ncatctgtgc tcaaaancaa ataccaacga
32941 cttcatttcc taatttgggg tagaaaagaa aaactgaagc ttggtggtag tgggaaatat
33001 caaggtagag gaatttattt atctccttct caagagttgg aaatcttcta atccttcttc
33061 catcaatccc tctcttactc tttctcatct cttggcctca acgagagaag ggtagggaga
33121 ggcagagaga gtcctaaaga agaagaaagt tttggaaagg agagagagtg atttcatttc
33181 ccttccatat gaaaatctta ttctgggaat ggtggcagcc ctcagaacac ttgatctcat
33241 tcattctcca tacactgagc taaaggctga gctgcttact atggcagaaa gtattttcca
33301 aagagaattg caacaatagc ttccatccca cctgctcttc tgtcatgtga ccccatcaag
33361 aggtggagtc tattcctccc cactccttga ttctgtgttg gcctttgatt catttgccat
33421 caataggata tggttggata taacactgca tggctcctga ggctggatct gagaacnacc
33481 atgcagcttc cacctggttc tcttttaaca cttgctctgg anncacgtgc tctgccagct
33541 accttaggaa atctgactag agaggctgct cagagatgct ccaatgaaca gcatctcctg
33601 agccccctgg tgacagcgag cactcactgc ctgccgccat aggcaggagc tatctgggac
33661 tttccagccc agtcgggcct tcagatgact gcagccccag ctgatgtgtg actgcaaact
33721 gtatgggaca atgctcagct gagccctttc tgaanttctt ctttttttt ttttttttt
33781 tgagatggag ttttgctctt gttgcccagg ctggagtgca atggcacaat ctcagctcac
33841 tgcaacctct gcctcccagg ttcaagcaat tcccctgcct cagcctccca agtagcttgg
33901 attancaggc atgcgccacc acacccagct aatttttntg tgtttagtag agacagggtt
33961 tcaccgtgtt ggtcaggctg gtctcaaact cctcacctca ggagatccac ccattttggc
34021 ctcccaaagt gctgggatta caggcgtgag ccaccatgcc cggctccttt ctgaattctt
34081 gacccacata attgtgagca aaataaaata attgtttttt aaagtctgta ggtttggggg
34141 taatttatta tacaacagta aatggaaaac tttcagtcat gaatcagatt tagcctttgc
34201 cctcagaaga ttcacaattt aatcagagat tgaaaactct ttaaccactg ctcaaactag
34261 gacatggtgg gtgccgcaac atgaaagcat acccaggagt tggccagaca gccagggaag
34321 gaggatattc agtgaggaag ggctggcatg tagaaaggca agaaagtatc atgagatgct
34381 aagtaagtgc catcctgatg cctgcttggg gagtcctgtg tctctctcat gtatagagca
34441 gtatgcaagg gtggcaataa tggggctaat aataatgaag ctaatgaaga tgcgggtaac
34501 agtgatgaag atgatgatgg ggatggtgat gatgcggatg atgatgatag ggctagtgat
34561 gatggggatg ctgatgatga ggatgatgat gatggaggtg ctaatggcgg tgatgatgat
34621 aggggtggtg gtgatgaagg tggtggtgat gcagatgatg gcgaagcagg tggtggtgat
34681 ggagttggtg atggtaatgg tgatggtggc aaggatgctt cctatccacg ggctacacca
34741 agacatcctc tggtgtcttt gcaggctggc cagtcccatg cagacgcttg gctgagcagt
34801 ggggcttttt tctatcacag ccttcttgga gttgcccaat cacaccagcg tcccatgcac
34861 ctctgccttg gatcatgcgt gggatatttt cccccatttt gcccatctag aaaactgcca
34921 ctcacccatc aagtctcagt tcgaatgctg ccttttttggt ggagtcatcc tacgttctac
34981 ttgacagact caggttctgt atctccaatg ctcctgctcc ccttcctaca tcccctagtt
35041 ggagcacaca tcacactgcc tgcattctgg tttacctgat tccccacagg acccttgagg
35101 gctaagaatg tatcttaccc atcaatggat aatttgtgcc cagcattgaa cctggatcat
35161 agttagtgcc tcatatatgt ttgttaaata cattaaatca gcccctatct gagcaagcat
35221 ggagggagac acaggtaaag gaaaggggta agtaccagag aggttccacg tataaatgtg
35281 gacgccagca aggtctggaa tgtgtactaa aggactggat cagtggatac agcaatactg
35341 actcatcaac caacccctat atttttctat gaattacctt tttaaaaatg ttattttaac
35401 agaaagaagc caggcaggtc tcactcgaca gggtattgac cttctgtaac acattttatt
35461 aagactcatc aggactgcag gtctctgcat cctctgaggg tgcctgtgtg ttcaggaggc
35521 agagtgatag ggaaattaaa tgcagcagct gcatactttg aagctttttt aagcaggcaa
35581 ggccagccaa ctccacagca tacaagctgg gagaataaca gatatgctgc cttcctggac
35641 ttctacccaa gcagggaaag agatttccta aagagccaag ttagataaat gttcttccac
35701 catgctcttg tttggagaat aggtggatgc taagaaacgc ggctgtggag ggaatttgtg
35761 tagagccact cctttgcttt tagtggttgt ccaatattta aatacacata cacacacaca
35821 cacacacaca gctctgatgc cacacagctg gggaaattga aatagaaggg aatgaaaata
35881 ttttgaaaag tggagattta ggtggtggtn aagacccatg acatattgtg tggccaggac
35941 ccccaaggag ttcccttcca tgggcatctt tccccctcca tagctgactc tcaggtacac
36001 ttccctttca ctgggctgtg ccctatttta tatagcaagt cccaactcaa acaccttcga
36061 tgactccttg ggagacctgg aataatgtct gccttttggg gtggtgttta tgacccttca
36121 cagtctcact tgaacctgtc tttccttttg tcttcttaca ctcctcttcg accccacaca
36181 tcctgtgcca ctctactgct aaaaccaata atcatcatca ttgtcaccac catcgcttgc
```

```
36241 gtttattaag tgctgactct cgagtggccc cagaacagga gccttacatt cattagctta
36301 tttcatcttc ataattccac gaagctggca ctgggatgac cctcagcttg acgatgagga
36361 catttgggct cagatcagtt aagggacttg cccaaagcta cacaagtaat aagtgaccaa
36421 cggtacccat cctgacctct ttgccttggc aaatgctgtt tctcctgctt agtggcttcc
36481 tctctccacc ttcttcatct gacaatctcc tgctttggag ccctggtaac tgtttctttc
36541 tgatttttga cctcaccttc cctgatcaaa ctcccctggc tccatgagtc atttccgaac
36601 aaatgccatn ttggttgaat cccatttctc aattgagtaa atgggattca accaagtggc
36661 atttgttctg atatgattct gaattgagca attgtgaaag gagtcttaac ggaatgaaag
36721 gctgctgttc tccagagttt taattctgct ctgccagtca acacatctct gttgggggcc
36781 tgcgctgtcc caggctctgt gccgtgacct gtgggagtct aaatggaatc aaagaggcac
36841 tctccagggt ttcagacaga ttggcacctg gtgttcagag cactcattta tggtaaaaca
36901 tctctagttt gtatgcggac attttctttt tattttgaat attgttcatg tacgccttct
36961 ctctcttttt ctgaactact gttaccaaaa tcggtaaaac attggccttt ccaagcaacc
37021 acacttagtt ttgctgatgt ctttatttta tgtggctgtc tattatttgt tttattgttt
37081 attcatttct atcattatct tcattattcc cttcattcta gtttccctga ttctttttcc
37141 agattcttga attgattgct tggattgtgg gttatataca gctgttctaa tttcctaata
37201 aatgcattca acactataaa ttacccctct aagaaccagt gaaactgcct cagacaagct
37261 gagatatgta atgtctttat tactttcaat ttgaaatacc tgttaatttc tgttatgatt
37321 ttctttttta acccctggat aatttagatg tgtgattttt aatttccaaa catgtactta
37381 aaacatctct ttgttngttg attactaatt ttattgcata ccnagataga gaaactgtaa
37441 gtaatgaaga ttnctttgga atttattgat acttcttttg tggtctgtgc atagcccatt
37501 ttttgacatg tatcctctct ttgtcaagtt taaatttaca tttatgcnag acataactat
37561 acattcnctt ttaatcncac cagcttctga aaaagatttc ttaaaaatcg cccactatat
37621 ttgtttattt gtcaactctt ctctctaatt atttcagttt ttngctttgt atatttcaag
37681 gctggtattg nacggattca tacnacnggc aatgcctgtc cctaantact tttaatatct
37741 tccatcttaa gttcagtttt gtctgatgtt aatacagtca tgcactacat agtgacattt
37801 tggtcaatgg cggaccaagt atatgatggt gttcccataa gattataatg aagctgagac
37861 attcctattg tctagtgagg ttatagccat cataacatca gcatagacaa tgcattactc
37921 atgtgttttt ggtgatgtag gtgtaaacca atctactgtg ctgccagtga tataaaagta
37981 tagcacacac acaattacgt acagcacata atacttgata atgataataa aagactgcat
38041 tactgcttta tatacttact atactgtatt tttcatcgtt attttagaat gtacttctgc
38101 tgcttataaa aaatggttca ctgtaaaaca gcttcaggca ggtccttcag ggagttttcc
38161 agaaaaaggc attgttatca cgggagatga cagttccatg catgttatta cccctgaaga
38221 ccttccagtg ggacaaaatg tggaggtgga agacagtgat attgatgacc ctgaccttgt
38281 gtaggcagat cctatttcag cctctctctg ggttattttc ttctcagatc tccatctctc
38341 agcacaatga tgccattcat tggtctcttt gcagcgatcg tctacgtgcc cacatctatg
38401 ctccatgggc cccacattcc tgtgtcttca ttttgcgcag ctagcagaca gacaggggtc
38461 tcccaggccc aagcccaagt gaccaaaagg agaatccaat tgcccagctc tggtcagggg
38521 ccccagcagt cccatgagct ctggccaagg agacaaggtc atgaagtcaa acccagatgt
38581 cagctctact gccctgtttg agtgatagtt ctcagggaaa atgataagag tcttccaaag
38641 atgcatggcc agttagaggt agggtcagtt gtagagcccg agttccccag accccaggca
38701 gggtcccttt ggaattgctt cattctccac atcgaaggac tggtgaccct aagaaggact
38761 ttctcagtga tttatgggat tcagagaagc aagaggtgtc aaaatgggac acagaaaaat
38821 agcagtgaca cagagcagaa tgtggctttt taaacgagtg aaagtagttg aaggtggctc
38881 tggcttattt ccatctgctg tccttcaatg actgaaaatc tgcatagaac agttggctta
38941 tggcgtccac tggccaatgc agctctcaga gctgagaatt tgctcccttc ctgtgtataa
39001 aacaccctct tcttggcctn caggcctcng gcctgaccct gagcagggta aaaaggctca
39061 gcccactgaa agagagacag agagagagag agagaatgag aacgagtgag gggtcctggc
39121 tggcagaagg ctctgccatt agctggggag ctgaggttgg gataagccct gctcagcact
39181 cagacaggca ggaacctgca ccaggtccag gcaacttcct tgatcagaac ttgacagtgc
39241 cagaaatggc tccactgccc ttggttactg ggccatttga ggggaaaatt gaattataat
39301 cctaacatcc cttgtacgtc tggaaatttg tcatagtaat taaatgctaa taaggcaaga
39361 gagattaaac ggatagtttc cttaaagatt acactccacc accaagatca ggtagaaatt
39421 ataagtaatg tagtggtgta gtcagatcac tccagctgaa taaatgccac gatgagaaag
39481 caaagagtcg ttcagttttc tatatttgaa tatctcatta gagtctgtca ttcagagaca
39541 tatcgggtgg cagaaaggtg acatttaagg tctctcatgg aaagccaagc ccttaattat
39601 ctgatggagg ttaatgtggc cacggaacag gggaagtctg ggtgtaaccg gggagaatgg
39661 attgtgctaa gagcaggttt ggtggatgga cccatagagg ggggccaccg actgggaagg
39721 cctgggttgg agttttcctg gcctttgctt tttcccaacc aggctgaatg gtggggacca
39781 gaagcattct ccttggcaca aagaagggat gagcacagtt ataaggaaag aaaccgtagg
```

```
39841 aagtgatctc tctggccaca taattgatgt aggcagaagg ccagtcagcc ttacaggcct
39901 ggaaacactt tgctgagtat gctgaagtct gcaatgtagt atgtgcaggg gcaagggtaa
39961 gtgtgtgtgg caacaatgat ggctgtgact ctagtgtaga aggccctcca tgggaatata
40021 gtaggcagcc atgaaaatcg ctccacaggt ttcctgcctc ccaggattca tgcccttgtg
40081 taatcccctc acctgcatgt gggctggacc tagtgatgcg cttctaacaa atacaatatg
40141 ataaaagtga tgtgatgtca cttccaaggt tcagttacca gaaaaaaaaa aaaagactgt
40201 gactcctgcc ttgcttgcac tctctctggc tcttctcact tgctcacagt ggtgaagcca
40261 gccactgtgt tgtgaggtgc ccntgtggag aggcccaggt ggcagggaac tgagggtggc
40321 ctctgaccaa cagccagcaa gacgtccgca gtctgacagc ctgcaagaaa tggaatcttg
40381 ccattattct acctgagtga gcttggaagt gagttcttcc caaagtgagc cttcagctga
40441 gactgcagcc aagtccaact tctcggttac agcctcatga gagtcactga gctaagctat
40501 gcctagattc ctgacccgca gaaaccctga gttaacaaat gtttgtttta agtcgggttt
40561 aagctgtggc taagttctgg ggtagttcgt tacatggcag cgggtaacta acacaaggag
40621 ctttagactt tatgataata ctggggtggg aggcctcagg ttgaccagta ggcagaccct
40681 ccttgctgtg tctctgcatt ctcgcccttg ccctatacca gggagaggaa gtttcttcct
40741 gaacctagct ggaagtgggg tctttgtgtc ctacctcagg gcctacgata gatgggtggt
40801 taatattaaa agaaaaaaag ttttgctata ggtttaatga gctttaggta atgagctaca
40861 gaaccagaag aggcagagaa gatgctgctt cccatctacc tcgaggcaaa aaagaacagt
40921 gcccatctgc agtggagact ctgagttgga gcaaaggtgt ggattgtgcc attaaactat
40981 cgttctgaac atccatgaac agagattttg acaggtatcc taacaacttg tttcctgttc
41041 ctcaagagtt gggaacaagt ggttgatcaa gaactgtgcc agctgagaac aattctccag
41101 caaaatttgg tggctgccac atttctttgc cttttacatc tgcagcacgg aacgattata
41161 gcacagctca gttcctgagc ttctcaataa acagctggtg gaaaaactca accaaatatc
41221 ctcagcaaca tatcctcagc ttgtaattgg aagagaaagg tactattttc caggaagata
41281 ttatttttctt ggaaaanctt taaaagccag gtgatttaga attttaatct atccgtcctt
41341 ctatttcatt aacatttctt gtgcctcctg tataccagga cctgtgctag gagctaaggt
41401 tacaaantat aaatgcaaaa tacaatacta tccctgcctc tactggctta aacatataat
41461 gaaggcaata tataaatata gctttttggc caggcacggc gtctcacgcc tgtaatccca
41521 gcactttggg aggccaaggc aggtggatca cctgaggtca ggagttcgag aacagcctgg
41581 gcaacatggg gaaatcccat ctctactaaa aatacaaaaa ttagccaggc gtggtggcag
41641 gtgcctgtaa ttccagctac tgaggaggct aaggcaggag aatggcatga acctgggagg
41701 cagagcttgc agtgagctga gattgcacca ctgtattcca gcctgggcaa cggagcaaga
41761 ttccatctca aaaaaaaaaa tatatatata tagcttttca agtgagtaaa aatcattgga
41821 gaattgttta tggaatcaaa cacagaaaac aaagaatgga aggaataaat aaaaattatt
41881 tttagggtat tttatttttc ccagggcact atccattttg cggaggagac ctgacaaaga
41941 ttgagaagcc aattcttgtg aagtgaaagt ctgtcatgat atcatttgtt gaagtctatg
42001 ttttgagctg gtacaaaaat cattccattg gattatgttg tggatgtgat aagcagaacc
42061 tttagaaagc cccagctagg tgaggactga gccaaattct gatttcaaac ttctaatttt
42121 ttaagattca gagaggcaag acacttgccc aagatcacac agcacataaa ttgtccttct
42181 agattagaac cttgggcctt ctcactccaa gcccagcatt ttttatgtgc cctttaggtc
42241 acaagaagag cattcaaaga atctgggttt aatggactaa ccaacctggt tttctctggt
42301 gaatggatta accatcaagg accctggctt acatgatggg agggttcaag caagcactta
42361 ctttgttccc tggaatcaag ggatacaata acatagccac gcttgaaaat aagaagaggc
42421 actagactgg acccaaaact gagctgaaag atagaaagta gatgggaagc ttagaaggaa
42481 cccacagtcc aggacctagc tgggaattct gcctcagaaa tactggtgct tcctactgag
42541 agtgggtgga atttgggagc aagaggtggc ctctgtatag actttatatt ttgtatatga
42601 tgaagtttag gttgaggctc aatattttgc caatgcatgt cttttcttcc ctgaattgct
42661 tcggcacctt tgtcacaagt cagttgagta tatttttgtg ggtctatttc tagattctct
42721 tttctgttcc attgatctgt gtgtctatct cctcacccat accacgttat cctgattact
42781 ataacaataa tattgaatag agtaatctct cccactctat tctttttttt ttttttttt
42841 tttgagacag agcctggagt gcactggcac aatctcagct caccgcaagc tccacctcct
42901 gcgttcaggc cattcacctg cctcagcctc ccaagtagct gggactacag gtcccaccat
42961 gcctagctaa ttttttgtat ttgtagtaga gacgggtttt tagtattttt atgttagcca
43021 ggatggtctc aatctcctga cctcatgatc cgcctgcctc ggcctcccaa agtgctggga
43081 ttacaggtgt gagccaccgc gcccggccca ctctattctt ctttagaaga cttttagcta
43141 ttttagaatc tgtgcctttt caaataaatt ttagaataag cttgtctatg tccactaaaa
43201 ccttgctggg atttcaatgg aaattgcatt aaacctgtag aacaatgcag ggagaatgaa
43261 tacctttaag atgccgaatt ttctaataca tgaacacagc atctctgttt atttagattt
43321 tctttgatgt ctttcatcag gattttgtaa tttttcatat acagattctg tacatgtttt
43381 gtttaatata tacctaagta tttcattatc ttcgaagtag ttgtaaatga cattatgctt
```

```
43441 ttaatttcag tttctgtgta ttcattgttt ttttttttt tttatttcat ccctggatac
43501 tttattataa atctcaatga ctttaaacat aaactacaat gtcattatca tacctaacaa
43561 tgtttcttaa tatcttatgt ctactccacg ttcaaagttt gccaggtgct taaaaatttt
43621 tatagttaat tcgcttaaat cagtatccac acagagtcta tacattgcat atttttggtc
43681 ttgtttcagt tttttaaagt atcttttaat ttttaaagaa agaccccttt ctttttttaa
43741 atgccatttg tttattgact aaagtagttc atttgttata tagaatttcc catattctga
43801 atttggttaa ttgtttccta gtgggggatg acttattctt aaaacttttt ttttcaggaa
43861 cacttcttaa tggtccttcc tgttgcatca tatcaggagg tccataacga ctggtcatcc
43921 acttttagtg atgggaataa ggagtcacta aatgtagatt aaatgtccaa aggaacaccg
43981 catttccgtt ctatctatca ctttggcatt ggctggtgtc nttttttttt ttttttaat
44041 ttaaatgtgg tatgtgtatt cagttctttt ttttttattt ttatttttt attttttttt
44101 attgatcatt cttgggtgtt tctcgcagag ggggatttgg cagggtcata ggacaatagt
44161 ggagggaagg tcagcagata aacaagtgaa caaaggtctc tggttttcct aggcagagga
44221 ccctgaggcc ttccgcagtg tttgtgtccc tgggtacttg agattaggga gtggtgatga
44281 cttaacgagc atgctgcctt caagcatctg tttaacaaag cacatcttgc accgccctta
44341 atccatttaa ccctgagtgg acacagcaca tgtttcagag agcacagggt tgggggtaag
44401 gtcacagatc aacaggatcc caaggcagaa gaatttttct tagtacagaa caaaatgaaa
44461 agtctcccat gtctacttct ttctacacag acacggcaac catccgattt ctcaatctct
44521 tccccacctt tccccccttt ctattccaca aagccgccac tgtcatcctg gcccgttctc
44581 aatgagctgt tgggcacacc tcccagacgg ggtggtggcc cggcagaggg gctcctcact
44641 tcccagtaag ggcggccggg cagaggcgcc cctcacctcc cggacggggc ggctggccgg
44701 gcgggggggac gacccccca cctccctccc ggacagagcc ggctggccgg gcgggagggc
44761 tgacaccccc acctccctcc cggacggggc ggctggccgg gcggagacac tcctcacttc
44821 ccaaacaggg tggctgccaa gccgaagggg ctcctcactt ctaaaatggg gcggtttgcc
44881 aggcagaggg tctcctcact tctcagatgg ggcggccggg cagagacgct cctcacctcc
44941 cagacggggt cgcggccggg cagagacgct cctcacctcc cagacggggt cgcggccggg
45001 cagaggcact cctcacatcc cagatggggc ggcggggcag aggcgctccc cacatctcag
45061 acgaagggcg gctgagcaga gacgctcctc acttcctaga tggcatggtg gccgagaaga
45121 cgcgctcctc acttcctgga tgggatgccg gctggacaga gacgctcctc atatcccaga
45181 cggggtggcg gccgggcaga ggctgcaatc tcagcacttt gggaggccaa ggcaggcggc
45241 tgggaggtag aggttgtagc tagccgagat cacgccactg cactccagcc tgggcaccat
45301 tgagcactga gtgaacgaga ctctgtctgc aatcctggca cctcgggagg ccgaggctgg
45361 tggatcactc cggttaggag ctggagacca gcccgngcca acacagcgaa accccgtctc
45421 caccaaaaaa atacgaaaac cagtncaggt gtggtggcgc gcgcctgcaa tcgcaggcac
45481 tcggcaggct gnaggcagga gaatcaggca gggaggttgc agtgagttga gatggcggca
45541 gtacagtcca gcttcggctc ggcatcagag ggagaccgtg gaaagagagg gagaccngtg
45601 gggagaggga gaccgtgggg agaaggagag ggagcgggag cgggagcggg agctggctgt
45661 tttcattgat aaaatagtta taatttttt ttttttttt ttgagacgga atctcgctct
45721 gtcacccagg ctggagtgca gtggcgccat cttggctcac tgcaacatcc acctcccggg
45781 ttcaagcgat tctcctcatt gttaatatat aaagatgcaa tcggtctttg tgttttgatc
45841 ttttatcctg caaacttgct gaactccttt attgattcta gagtattttt gttgcttcct
45901 tgagcttttg tacatacata atcatgtcat ctgcaaatag aggcagtttt acctcttcca
45961 ttgcaacctg tatgtctttt gtatgttttt cttttcctgc cttatgcagt atctagaact
46021 agtgctatgt caaatcagag aggtgagaaa agacattctt ttcttgttcc tgtatcttag
46081 ggagaaagta taatgtcttt aaccattaat tattacgtta gctatcgggt ttcttcatag
46141 aggttttcat caagttccta acttttgggg tcttaaaaaa attaagaatg agtgttggat
46201 tttctcaaat gctttttctg aattaattga tatgattacg cagtttttct tctttatctt
46261 gttaataggg cagattatat tgattattta tttatttatt cattttttctt ttaagacagg
46321 atctccctct gttgcctaga ctggagtgca tggctcattg caacctccac ctcccaggct
46381 caagcaacct cccacctcag cctcccaagt agctgggact ccaggcatgc accatcacgc
46441 attgctaatt tttttgtatt ttttgtagag atgaggtttt gccacgttgc ccaggctggt
46501 ctcaaactcc tgagctcaag caaactgcct gcctcggcct cccaaagtac tggaattgca
46561 ggcatgagcc actgcacctg gcctattgat tgagaatcca aaaggtaaac caacctttca
46621 cacctgggat aaataccact tggtcataac ttataatgac cttcatacat ttttaggttg
46681 accttgctaa tactttgttg aaaatttttg catcaaattc atgacagata ttagtctggt
46741 gttttttttt ttttttttt ttttttttg ggggttccct gcgttggaca ggctagtttt
46801 gaactcccaa cctcgtgatc cacccacctc ggcctcccaa agtgctggga ttacaagcat
46861 gagccaccac cgcacctggc ccctatttca ctcttgatat tggggatttg tgttttcttt
46921 catttttgtc aantctttct aaagatttgc aaattttatt gatgtttttg aagaagcaga
46981 tttttctcta ttgttttcct gtttttgatt tcattgagtt ctgctgtaat ctttatttcc
```

```
47041 tctcttattc ctgccctgag tttattttgc tctttttttt ccccccaagt ttcttgaggt
47101 agcaacttat attattgatt tgaggttttt ccntttttttt ttttttttttt ttttttttt
47161 gacagagtcc tgctctgtcg ccaggctgga gtgcagtagc acgatcttgg ctcactgcaa
47221 cctctgcctc ctgggttcaa gcgattctcc tgcctcagcc tcctgagtag ctgggattac
47281 aggcgggcac caccacgccc agctaatttt tgtattttta gtagagacag ggtttcacca
47341 tgttagccat gctggtcttg atctcttcac cttgtgatcc acccgtctcg gcctcccaaa
47401 gtgctgagat tccaggtgtg agccactgcg cccggctgtt tttcctcatt tcttgtgtaa
47461 gcattcagtg ccattaaatt ccctctcagg gctgctttat ctgcattcca catattttgt
47521 tgtgttgtat ttttatttte atttagtcta ttgagacttc tttgtcttat agattattga
47581 gaagtttaaa ttattttaat ttccacctat ttagagattt tcctgttaca attctgtcgt
47641 atttaaggct cccggcctta aataaccttt taaaactgag atttgttttt ggttttggtg
47701 gagtttcgct cttcttgccc aggctggact gcaatggcgc gatctcggct cacagcaacc
47761 tccgcctccc gggttcaaac cattctccta cctcagcctc cagagtagct gggattacag
47821 gcatgcgcca ccatgcccag ctaattgtgt atttttagta gagacggggt ttcttcatgt
47881 tggttaggct ggtctcgaac tccggacctc aggtgatctg cccaccttga cctctcaaag
47941 tgctgggatt acaggcgtga gctaccgcgc ccagccgagt ttggggttta atgtaaaatg
48001 cagaactata agacttttag aaaacaatgg agaaagtctg cagaatacaa ggctaggcaa
48061 aaaaaaattg ttggagttga caccagaagc atgatacaga aaattgatac agaaaaaatt
48121 tatgttggac tccaccaaaa ttgaaagttt ttgctttgtg aaagactttg tttaaaggat
48181 aaatagacaa gatacatact gtctttgcac ataatgtatt caagaaagga ctgttgtcta
48241 taatatataa aagaatttca aaactctaca gtaaaaaaca aatacgcaat ccacttagaa
48301 aaggaacaaa agacattatt agacatttca tcaaagaaga tatatagata gcaaatgagc
48361 acatgaaaag atgttcacca tcattagcca ttggggaaat gcaaattaaa accacagtga
48421 gatatcacca aacatccatc atcacaacgg ctacaattaa aaaacagtga caaaatataa
48481 agttcataca gaccaacacc agtgctggca aggagctgga gaaactagct atctcgtgca
48541 ttgctggtgg aaatgtaaaa cagtacagcc accctagaaa acaatgtagc agtttcttat
48601 aaaattaagc atgcaaccac cacacaacct agcaattgca ctcttagaca tttatcccag
48661 agaaatgaaa atgtgttcac acagaaacct gtacatacat gttcacagca gccttatgca
48721 taacagccaa aaactggaan tcaatcaacc cagatgtcct tcaacagatg agtggaaaaa
48781 caagctggta catttataac atggaattcc actggacaat aaaaagcagt gaatttggcc
48841 gagtgcagtg gctcacacct gtaatcccag ttactcagga ggctgaggca ggacaatcgc
48901 ttgaacctgg gaggcagagg ttgcaatgag ccgagatcgc accactgcac tccagcctgg
48961 acaacagagt cagactctat ctcaggaaaa agaaaaaaaa aagctgtgaa ttcgcagtgg
49021 ctcacgcctg taatcccagc actttgggag gccaagatgg gaggattact tgaggccagn
49081 gagttggtta acatagtgtg gcccccatct ctattaaaaa aaaaaaaaaa aaaaaaaaaa
49141 gaggcntggg catggtggct cacacctgta atcccaccac tttgggatgc caaggcgggc
49201 agattacctg aggtcaggna gttcgaganc tagcatggcc aacatagcaa aaccccgtat
49261 ctactaaaaa tacaaaagtt agccaggtgt ggtggcatgc acctgtaatc ccagctactc
49321 aggaggctga ggcaggagaa tcacttgaac ccggaaggca gaggttgcag tgagccacga
49381 tcatgccact gcactccaga ctgggcaaca gagtaagatt ccatctcaaa aaaaaaataa
49441 tgaaattttt ttttaaaaaa aaaaagaagc agtgaattac tgattatagg caacatcttg
49501 gaagaatctc caggaaatca tgatgaatga taagatccag cgccaagagg gcatatactg
49561 catggttcca tttatattac atttttgaaa tgacaaagtt ttagaaatag agaaaaaatg
49621 agtgattgcc tggggttagg aatgggggaa gaacaggaga agggatctat acttacggaa
49681 agacaagaca gggatcatgg ttccgatgga attgctcaag atcttggcta tagtggtatc
49741 gaaaatccac atgtgaaaaa attgtggtat aactaaatac acaaaaagac acacaaatta
49801 ctacatataa aaccggggaa accatgaata atatcgataa attaaatcaa tgtcaacatc
49861 cagtcatttg atattgtacc ataatttttac aaattgttat tatagcgaga aaaactcgag
49921 tcttaaaaag tcttaaacgg tcttaagatc gcttaaaaag tcttaaaaag atcttacatg
49981 agatctctcc atattatttc ttaaaactgc atgtgattct acaattacct gaataaaaat
50041 ttcagttaaa aaaattaaac atacgggtca gacatggggg cttatgcctg taatctcaac
50101 actttgaaag tccaaggcgg gtggataatc agagtgaggt tcaggattac aaaaacagcc
50161 tgcccaccac aatgaaaccc tgcctagaac cgaactaacc ccagtaggat ccccgaggtg
50221 gcacatacct gtagttacag ctaatcgaga ggactgaggt gggagaattg acttgaacct
50281 ggaaagcaga ggatgtagtg aaccgagatc atgaccactg cgctacagac tgggtgacaa
50341 gacgcaaaag tacgtctaaa aaaaaaaaga gaacttatca aactgtgctc tttaatgtgt
50401 actatttatt gtgcctcaat aaagaaaaga ataaatggat gagtatatga atgagtaaac
50461 aaatcaagaa tggatgtata catttaaaaa ttgacaaagg aggctgggtg cggtggctca
50521 cacctgtaat cccagcactt taggagtctg aggtgggagg atcacttgag ctcaggagtt
50581 tgagaccagc cagggcaaca cagggagacc ccatttctat aaaaaataca aaaattagcc
```

```
50641 aggcacggtg atacgcacct gtagtcctgt gtggggcagg aggggtgctc caagaagggg
50701 aacaggctga gcgtctacac cagagctggc accagggcac ggatgccttg tctggaggcc
50761 acccactccc ataacacaat tctgagaatg ccgcagtccc atcctggcct ctggcctcgt
50821 aatgttaacg ctggatccnt ggtctcctat ttttattcag tctatgtatt atgtcctgct
50881 gaatgagtgg aatatgaaaa taacttttta tttcccttaa gacggcatat ccggagctag
50941 ctcctatctc aaggaaatcc tttgctgggg gagtctgcag cttagagggg gaagcgccct
51001 tctgtggaaa agatgggctt gagaggcggc agggcactgt ggggagtccc ctggctctgg
51061 agccgggctg cccagttgcc caacaccagg gcggtcacag tcctcctaac ctctctgggc
51121 ctcgcaggac aaacccgcct ctgttgcaca ataaacccag taatacaggc caagtaccta
51181 gcacagtgtc tggctcatca caagcccttc agaccctcca gattgtgatg gggtagaaac
51241 ctgtgaacat cgtgaatatt ctccctgagg aggggatatg actaagcaag ttgtcgattn
51301 ctacctccat tgctgagagc tgacagcatc ccagcatcag gtttctcgtt tgagcaccta
51361 gctgggggtg ttccggtngc agaggacctg gangttcagt ttgagancat gcagtctgcg
51421 atccagacaa ggncattgat cgtgaggaat gagctgccgg gttcntccag cagagggaga
51481 ggggctgggg accgaggtgt catgagtgga gtgataaccg ctgtctctgt cccttcccta
51541 agctgtctcc tcgctgttct ggtggctctg accgccccag tggaaaaact ttctccctcc
51601 acagccagga cccaccaaaa gcccttggga ggcactcaaa tgtgcaactt ttttatagtt
51661 cacatttatt ctaccgggga aatcagccct cgaccgcagc ggtgcccagg catgaatcat
51721 catgtccatg gtgtacagaa aatgcagtaa gtcagcagtt acggggtggg gccccagggt
51781 tttcatccac aaagagattt ttcaatttta ttaaaatcaa tacgagtttt attacagtat
51841 aaatgaaatg aggtcccctt gcttctggga taacgaacca catcgccatg acagcggggt
51901 aggagaaccc ctgcctgaaa gagaccctcc tcgggaaggc gagtgctttg attcatgtgc
51961 ccagagtggt ggcgaccctg caggagagag aagagctgca gccaaggaaa caggtctact
52021 gggaaatttc cagcaacatg ccaagccccc cgctccgtga ctccttcctg tgttcttgca
52081 aatctttgtg aatcctagaa aaatcgtgac ataacaggtg ggacaaaatt ttccgtggaa
52141 atcacaggta gagttgattt catcattgag gttggcttgg tgctgagatt gtccttctgt
52201 aggaatgaag gcaggcacag agagcaagct ggtgtggaag cattccgtaa acaagtgctg
52261 gtggttttta ccttattctt gtagttacca tccacagcaa tgggtgctca ggtcctataa
52321 acaggctctt ggggaaagaa taacaagggc caccatctct aagttaatgg tcaagaccca
52381 aagacagtcc ccatggaaac cagaacagag atgatcactg aacgcaggag agaaggcgta
52441 agaggagtcc gcccatgtgt acacacacac actgcacact cacatcacac acattgcaca
52501 ctcagatata tacactcaca ttgcacactc atgtgcacac acattgcaca ctcatatgca
52561 tgcacacata ctgcacactc atatgcacac acacatattg gacacacatt gcacactcat
52621 atgncataca cattgcacac tcacatgtgc acacacatat tggacactca gattgcacat
52681 catatgcata cctacacata ttgcacactc atgcacacac acatattgga cactcacatt
52741 gcacacacat gcatacccac acatattgca acctcacatg tacacacaca cacacacaca
52801 cacacacaca cacacacact cttaagcagc tctctgggcg ggttgtggag gggcctcaga
52861 gcacagtctg gagcccccgg tgcagacatg gggcaggaag gggtggagtt cttctccgga
52921 caaagcccca gggactaggt agcttggctt ccaggggtgg cctagctcac caggacagct
52981 gtgggcagtc ttctggctcc tgcgggagct tccagtaccc atcccctggc caggacttga
53041 agggaactga gtttggatca gaacctcaga ctcctctagt ttgagccctg gaagctcgtc
53101 tcctggctgt agggttgtag tctcagtcct gactgctgag atgtcctggc agccctggga
53161 actagaccaa agctgcttaa tcggggttct gcagtcatca tttatctgga ggacaggttc
53221 tgccacctgg ggcctggtgc tgtagaggtg gctgtctcaa aggcctcaaa gctgcttcaa
53281 gtactgaggg agaagcttct gctggagctc ttggaaagct actgggctgg ttgtccacat
53341 tcagaggggc gtagacatgc ccttgtttnc ataggggnca gncagagccc agacccagag
53401 aatggggcat ccagagtgat ccaggggaca ccgatttcag ccaggaaagg gactttggtt
53461 gagaaagtgc ctgtgatgtg gatcctacaa accttggagg atttcctccc aatttttttt
53521 attttattta tttaattttt agacagggtc tcactctgtc ccccaggctg aagtgcagtg
53581 gcatgatcct ggctcactgc aaccttgacc tcccaggctt aagcaatcct gccacctcag
53641 cctcccgagt agttgagacc acagtgggtt gccactatgc ccagctaata ttttaatttg
53701 tagagatggg gtctcgctat gttgtccaga ctggtctcaa actcctgggt tcaagtgatc
53761 ctcctgcctc cgcctcccaa agtgctggaa ttacaggtga gagcncactc tgcacagcac
53821 caacttttaa aaatgaaaac aacaataaca gcaaggcatc ccaaaatccc aaccctaaca
53881 aagctatttt catttttgtg tatctaattc ttgtcctcgt ctacagagac acacattttt
53941 cttcattgga atgataatat gtacatgatt tttatctaca ggtggggttt tttgtctact
54001 taacaataca taataataaa aatgcagccg ccaaagtcat gtacccgaga acctaaagta
54061 taagaaaaaa ataaacatac aaaaataaaa taaaataaac ttttaaaaaa tgtacccttc
54121 ttgctggtgc cagtgatggg atggggtgac agggacagga gaaatggcag gaagaggagg
54181 ttgaagctaa gctatgaagg ccttggggtg tcaggccagg aagtgagaag acatagaagt
```

```
54241 ctaaagttcg ggaatgtgat gctcggatat tcaataagaa agtccaatca gggccgggcg
54301 cggtcgctca cgcctgtaat cccagcactt tgggaggccg acccgggtgg atcacaagat
54361 caagagatgg agaccatccc ggctaacacg gtgaaacccc gtctcgactg aaaatacaaa
54421 aaagtagccc ggcctggtgg tgggcgcctg tagtcccagc tacccaggag gctgaggctg
54481 gagaatggcg tgaacccggg aggcggagct tgcagtgagc cgagatcgcc cccctgcact
54541 ccagcctggg cgacagagtg agactccgtc tcaaaaaaaa aaaaaacaac agaaagtcca
54601 atgagcatta gggataacga tgaccagagg ccgagagacg tgatgcacag gtctgggtaa
54661 ttccaattac tatttttttt ttttttttt ttttgaggca aaaactcact ttgtcaccca
54721 ggctggggtg cagtggtgtg atctcagctc actgcagccc caacctcctg ggctcaagca
54781 atccttccac ctcagtcccc caagtagctg ggaccacagg cgcatgccat gatgcccagc
54841 taatttttt ttgtattttt ggtagagatg gagttttgcc atgttgccca ggctggtctc
54901 aaagtcctga ttgcaagtga tccaccagcc ttgacctccc aaagtgctag gattacaggt
54961 gtgagccacc gcgcccagcc ccaattactc ttatgaatca aaattatagc agaatgggat
55021 gaaattatct ttggaaacca tctctatccc cctggttgca taggtgatga acctgatgcc
55081 cagagagggg cagcaactgg ctgatgatca cacggaagtc agtagctgac cagcactggt
55141 agcagcagct cgaggagagg tggacattct ttccttttgt cttttgtgac tcctggtgct
55201 gagcagaaac caaagtggtg gcttcatgaa ttgtggaatc ccagcacgtc tgggaggttt
55261 gtgtaaaaga aggcgaagaa caaaggaaat ccccgaaacg acaagcaagc acaaaaacac
55321 gagaccagcc cctgacagga gctctgatta aagcaaaata cagacgtttt caacaataaa
55381 ggctgctggc gccacagaga aatgagtgac gcaaaataca acagcccgag gccgagctgg
55441 gagagaaggg gggctgcagg gtgactgagt cagaggctga atgagctgga ggtggggaag
55501 acacctgtgg ctgctgtctt acagctccat tgctgcagga anaaattctg cccgttgcat
55561 ccaggcgggc cccccgccct gatgcctata cccccgctct cctcttgcca gggagtcctg
55621 tggcttcctg catagcagac agggtagctg catgctatac agtctgatca aggaattttt
55681 tctgcacaaa tttatttttа aaaagtaact cattgaatta acttgcagtg gtatggtctt
55741 tattttcttt tcttttcttt ttttttttag cattctgcca cttagaaata aataagaata
55801 gacacaatcc cacagcccag actcccatag gctcggctct cccctggaga tgcagcttag
55861 tgtatgagga agctaaggct caggtgaccc ctcaagaagg ggaggaagtt cccacacttn
55921 ggattccctt tctcacacct aggcagtgct cacagcctac cttgtacagt gtgttcttca
55981 tcagtgcata tcctgtgctc caggtaggtc atgtgctgca ggaggagagg ccctgtggca
56041 tctccctcca agaaatggcc gtacacacca tgctcaggag aagccaggct ctggttactc
56101 aaagcagagt gtctgggtcc tcccttccat gagcctcaat ttcctcatct gtcacataga
56161 ggatcaatct gcatcacctt tgagtttgcc tgaagcatca atgaataggg catttgtccc
56221 ctaaactggt ctagctgtgg tttctgccag tgactcagag ggggtctgac ccgaggatat
56281 gtgtagagag cctgatgttt cttggaggga gtgccttaat ccatctgggc tgctgtaaca
56341 agcatgccat agngctgggg ctttcaaaca acagacattt atttctctca gttctggagg
56401 ctgggaagtc caagatcagg gtgttggcca attcagttcc tgatgagggc tctcttcctt
56461 gtttgcacac agctaccttt ttgctgtgtc ctctcataga gggggtagaa atcatatctc
56521 ttgtgtctct tctcaaaagg gcactaatta cctcccaaag gcactacctc ttaaaaccat
56581 cacattaggg aatgaggctt caacacatga gttttgggag gatacaaaca ttcagtccat
56641 tgtgggggta agcgggggct gtgagcctac aaatgcggga tctgagcact agcatggaag
56701 gcgcttatag ggtctggagt ccatcctcac cgaaaaggca cagtgaatgg tgtgagctgg
56761 tggaggcccc atgggctgaa gcatggctac cgacaagtac aaccctcttc ccctctctgg
56821 gtctcatttc tatacttgaa aagtaaaaat aggtaatgcc tctgttcact gttgtgaaca
56881 gagaatgaca ttatgaatga gcaaatgatc ttttcttttt ctttggttaa tattgttagt
56941 attctaatta tacaaataat atatgaatat attgttactg cacacattta aacaatgatg
57001 ttaacatgta agtagacctt taccatctat cccaggcccc cgaccctcct tggaggtaac
57061 cactattctc attaaatgtc tgttcatcta tgacttttat ttacacgcac atacataggc
57121 acgtttagaa ataaagaact ttccttttct ttttttctct tttatttttt aatttttatt
57181 ttattttatt tgagatggag tctcactctg tcacccaggc tggagtgcag tggcacaatc
57241 tcagctcact gcaacctctg ccacccaggt tcaagcganc tgtcctgccn tcaccctccc
57301 aagcagctgg gattacaggt gnectgccac tatngcccat ctaattttcn gtatttttag
57361 tagagactgg gtttncacca tcttggtcag gnctggtctt gaanctcctg acctcgtgat
57421 ccacccacct tggcctccca aagtgctggg attacaggcg tcagccactg cgccaggcct
57481 ttttttttтc ttttataatg agattgtatt aactgggtct tctgatcagg atcacacaag
57541 gttgccatca aggtgtccac taggctgtgt tctcatctgg aggcttgaat gggagaagcg
57601 tccaagttca ttccagctca ttcagcctgt tggaagaata catttccttg tagctgcatg
57661 actgagggcc ccatttttтt ttttttttтt ttttactggc tattagatag agactgcccc
57721 tggtgctaga ggccacccaa agctatttgc cacatggccg tctccctatc tataggcagt
57781 tagcacatga cggtttgctt ttcaaggcca gcaagagact gttttcaacc tgataagaca
```

```
57841 tagtcctgaa aatgtaaggt ggtcatgaga gtaatagctc atcacccttg aaatattcta
57901 ttggttaaaa acccacccac actcaagggg aggggattac acaagggtgg actcagtgtg
57961 ggtcacctta gggtatgtct accccagggt ggtaatattc ctcttccaag ccctgtgttg
58021 gttccagagt cctgcactct ctccctgcta cttccctaca ccttgcctaa atctttgtaa
58081 atagcctctt tattaaattg tcctcaaatt gcccagtctg aacatgctgt ttttgtgcct
58141 gacctgtcac agagaccagt agccagggca cagttttgca aactatatat gtgaagggta
58201 aaatccaagg ggaaggatga aggtaaaaag gaaacaaaga caggggttgc gaattctttc
58261 caaacccaag cagtccatac acaagcagaa agtccgactt tattagtatg gaataaggga
58321 taaacacgtc ttcctctttc ctctaccaga ttctataang gaaaagttat tcttaaacac
58381 ccctgacttc tctcctctct gtaacctcta tctgcttcta ccagaagagg agtgaattat
58441 ttggctggtg ccntttggga ctgggacctg ggccgcctaa cttagtttct ccttctgctt
58501 cctctttnga actccacctg ctgcagagca tgtgtattct gcgctgctgc ttcatgcaga
58561 ggaggcctgg taatgttctn gcctgtggcc tgtgtctatt tctaattctg gggttcagaa
58621 tatggaagca catggttgta gcatatccca accatatcct ccaaaccagc tttaaaagga
58681 nctgtatttt gacttttaa atgatagcca ttcntgactc atgtgagatg atatctcatg
58741 tgggttttta tatttattta ttntattnta tttatttatt tatttattta tttatttgat
58801 ggagtctcac tctgttaccc atgctggagt gcagtggcat aacctcggct cactgcaacc
58861 tccatctccc aggtccaagc gattcttctg cctcagcctc cggagcagct ggaattacag
58921 gtgtgcacca ccacacactg ctaatttttt ttttttttt tgtattttta gtagaaatgg
58981 ggtttcacca tgttggctat gtcaccaggc tattctggaa ctcctgacct caagtggccc
59041 acccacctgg gcttcccaaa gtacaggcgc tcattgtggt tttgatttgt atttctctga
59101 tgactagtga tgttgaacat tttttcatat gcttattggt tgcttatatg tcttcttttg
59161 agaagtgtct gttcatgtct tttgcccact ttttaatggg gttgtttggt ttttgcttgt
59221 taagttgttt aagctcctta gggattctgg atattagacc tttgttggat gcataatttg
59281 aaaatatttt ctttcattct atagggtgtc tgtttactct gttgatagtt tctttagctg
59341 tgaagaagct ctttagttta attaggtcca ctttttttgtt gttgcagttg cttttgagga
59401 cttagtcata attttttttcc caaggccaat gtccagaatg gtatttccta ggttttcttc
59461 taggattctt atagtttgag gtttaactat agtttgaggt ttaacttata gtttgaggtt
59521 taaatttgac atttaaatct ttaatccatc ttgagttaat ttttgtatgt agtgaaagac
59581 aggagtccag cttcattctt ctgcatatgg ctagccagtt gtcccagcac catttattga
59641 atagggaacc ctttccccac tgcttatttt tgtcagcctt gttgaaaatc agatggctac
59701 caggtgtgtg gctttatttc tgggttctct attctgttcc attgatctat gtgtctgttt
59761 ttgtaccagt actgctgttc tggttattgt agccttatgg tatagntttg aagttaagta
59821 atgtgatntt ccntctagct ttgttctttt tgncttaaga ttgctttggn ccatnttagg
59881 ctctttttgg ttccatatga attttagatt tttctctagt tctgtaaaaa atgatgctgg
59941 ttgtttgata ggaattgcat tgaatcttta gattgctttg gacagtgtgg ctattttaac
60001 agtattgatc cttcccatcc atgagcatgg aatgtttttc catttgtttg tgtcatctat
60061 gatttctttc aacagcgttt tgtagttctc cttatagaga tcacctcctt ggttagatgt
60121 atttctagtt ttttttgtg gttattgtaa atggaattgc attcttgatc ttgcttgtag
60181 cttgaatgtt attgttatgt agaaaggcta ctgatttttg tacattgatt ttggatcctg
60241 aaactttaat gaaattttta tcagatccag gaggcttttg gcagttttca gggttttcca
60301 ggcatagaat catataacca gtgaacagag atggtttaac tgtctttttt tccgatttgg
60361 atgcctttta tttcttcctc ttgcacgagt gctctggcta ggacttctag tactatatta
60421 aatacgagtg gtgagagtgg gcatccatgt cttgttccag ttctctgggg aaacgctttc
60481 tgctttggcc catttggtat gatgtatgcc tgtggatttg tcatagattg gctcgttagt
60541 attgtatgag gatcccagag cagtatcaag ggtgtattca gaaccactgg ctcaatgtgg
60601 catgtcttcc tagaacatga gttaagccca ttaggacgtt aaaacagttt catattaaaa
60661 ccagcaagaa tatattacaa aataaacaca aaacatgaca tcatttttg gaattgaatt
60721 agaaaagttc aaatacattt tcaggccttg ccacagcttc cttggaggta caggtttgtc
60781 gcttatggcc ctttgatgga aacattgaga acctctgtgt aggtgaggga tctctctcag
60841 ggggttttca tctgggagtg tgataagatc aggtctgttt taggaagatt tccctggaaa
60901 caagaatgga agatggtctg ggctagactg caggtagaag gtctgctcag agcctgttga
60961 gccatcccag gtagaggttc catggaatga gagaaccgtg gaaaaaaaaa agagggaaca
61021 atgtcaacaa ttagaattgg cagcatcccc acccgacctt caaggtctct gcttggatgt
61081 ctctttctcc aagaagtttc catctggtat ggattagaac ctctccggcc aggcacggtg
61141 gctcatgcct gtaatcccaa cactttggga ggccgaggtg ggcagatcgc gaggtccgga
61201 gttcgagacc agcctgacca acttagtgaa acctgtctct gctaaaaaca caaaaattag
61261 ccagacatgg tggtgtgcac ctgtagtccc agctactcgg gaggctgagg caggagaatc
61321 gcttgaacca gggagacaga gtttgtggtg agccaagatc acgccactgc actccagcct
61381 gggcaacaga ccaagactcn cgtcntcaaa aaaaaataaa taaaataaat aaataacctc
```

```
61441 tcctgtgtgg tccgacagtt nccttgtttt ccccattcac gctgcatggc cacaaaatca
61501 gcattaccaa tggcatttat taaattcttt ctgaatacca ggcaccttac ttattgtcag
61561 ttgggaatag gttcaactgc atagtacaga accaccctca ctccccctgc cgaagagtgg
61621 cttaagcaag aaagtggctg aagcaaaaac tcttcctccc ctgacaagga gtctggaagt
61681 cagtagaaca gagtttattc aggtgcgcaa ggatgtcatt tggaagccaa gttcgttcca
61741 gcttcctgct ccatcatccc aagcatgtgg tttctccctc atggtctgaa gttggctggc
61801 tcttccatta tatttttttct ggcaagtatt ttaaagaagt gaagctttgt tcttttattc
61861 aggaagggat gccttaacca nagagttcca tctacttctt ctttttttt ttttttgag
61921 atggagtttc gctcttgtca cccagntctg gaatgcaatn ggcgtgacct cggctcactg
61981 caacctctgc ncttccgngg ttcaagcaat tctncctgcc tcagcctccc aagtagctgg
62041 gatcccnagc taatttttt ttctttttt ttttttttgt atttttagtn agagacaggg
62101 tttcaccacg ttggccaggc tggtctcgaa ctcctgacct caagtgatct gcccgcctca
62161 gtctcccaaa atgctggaat tacaggagtg agccacggtg cctggccagt tccatctact
62221 tctcattgac cagaactgag acatgtggcc atccatcgca gcaggggagt ctaggaaggt
62281 gagcactttc ccagggtgca ttgccagccc agtggaatcc atggatattg ggtaggcaac
62341 tagctgtgtc tgccgtgaca tgtattaatg tatttaattc tcacaacagt cctaggctgt
62401 agctattatt attaatgtaa ttttgtggat gacggacttg agaaacaggg aagttaagta
62461 cttatttttt taagattaca tagtagatgg aggagctaga gatggatggc atgtttatct
62521 ttatttttta tgagaccgta agcaacctga gggcaggacc gtngtattta ttgttttact
62581 tctgtccctg tacccctgtt ccctggcgta gtatggttaa ttggcttgat ggctgcttgg
62641 atgctttatt gataccctaa caaaaatctg aacccatcct atagctacat ctcatgacaa
62701 tggaaggaga ggtcagaagg aatctccacc ctggcatgcc attcctcttg gccaaagaca
62761 gcttggactt gttcagctca gactaagttc tgctgacggc caccccagct atgctgggct
62821 gagcacaaca gaacttaaca aggtctgaat tgtttcaagg agtgttttta acaagttgta
62881 aatgtatttc accaagtccc attgctgtgt ataattgatg cagctgatga aaagcaatca
62941 tgatcccgtg aatcatttct gcctgtttac agcatttcat tccccatctt ccagaaggat
63001 gcgcaaagca cgctttaaaa gaaaacgtat ttgatattga catatggtaa gactgtcttg
63061 catcccgctt cttcactggc tcatgtgata tgtgaaatag aaaaaggcaa gcttgtaatt
63121 actatagatt ttatttttaa atacccacag ataattgcct ttaagtataa acaagggcat
63181 tttcaagaat gatgatttta cctccacttg gtttgcttta ggataagaaa tacagcaggc
63241 accttgggat gtaattattt acacacactt cttttgcact cacttaaaga gatggaatgt
63301 gtcttgtttc aaattatagt tacccatttt tccccccgag tgcccttcct aaggcttagt
63361 acaagtagtc atttgttgaa tgtttgaaaa aaatgaataa atgaaggaat aaacattctg
63421 gaagaaatat tgaaaaatcc tgaaagggca gtcttccttg tttataatga tgattgaggt
63481 tgtctaacag tctctctgga aaatgggcct taaaggaatg gagtagagaa tctgaactag
63541 caagcatgag tccttaggtc aaagtcagga tcagtactga tatcatgcta atgctgcata
63601 acaaaccaac cccaaatcca gtcggctaac aatagtattt attttcataa tacatgggtt
63661 tgcaaggctg attacagtat ggctgaccta gactggtctc agctgggtgg ctttgcttca
63721 ggctacaggt tgactggaca tggcntctag gatacgagga tagcttcagg tccattttac
63781 atgtttcttt tggggtgcag tctgaggtgg cagcatctac ctggcacctg aacttttcac
63841 ggtgggtcat tgcagtgcag aaagaaaaaa aaaattgcac cagaacattt caagcctctg
63901 attacatcac attcactaac atctcattga accaaacaag tcatattgtc agcccaaaca
63961 agtcgtattt tcaactcaaa agtaaagaag tggggaagta tactgtatag atcatgaggc
64021 catggaaacg gcgtacaagt aaaattctat tacaaagtag tgaagagttg gaaacaaaaa
64081 ttcagtctat cactaagaaa ccataggggt aaagaggagg aaacggataa gtgagatgat
64141 aagcaggagc tggaggtgga gacagaaggg ggagaatccg tgctacatct aggtgactga
64201 gtcggggttt taatcccacg aaacaaaggg caagagccac cacagtagag tcatcccaag
64261 gcactacaaa catcctgcaa tgcaaaagtg tcacagtagc acataatgta ctctgtaatc
64321 atgcagaaag acataatttc ctgagtgcta ttaggtctgc tgatgagagg agagaccaca
64381 caagctaagc ggaggtgtgg gtggaggagg ttgactagat ccgtgcacca cctatgcaac
64441 tccagccacc ccaggccagc tccctcctca ccctactgcc ctctgacctc tgctccctgg
64501 ctctcacccg gtcatcagtg atttcttcca ggctaaatcc aatggacgct tacgggacct
64561 tctcttactt tgatcatctg tagcctgtga cactgtcaat catgtcctcc ctcaaagccc
64621 caatcctctt gaattctgtc ttgtaattct tatttgcatt ttcctcctat ctccctgaat
64681 ttcttctcgg tgtcttttcg aggctcattc aaattttcaa ggaggaaaat gttggcgact
64741 gagctagaga aaagaagcgt ctggcagtaa atggtccaaa aatatattgc cttggaagca
64801 actagagcct cacactaaca atgcctgctg taatatggaa tatggagagt gagctcgtct
64861 gggacaaact gccatatttg aagagtgaca ctcccatttg aacagtgaca ctccccaccg
64921 ccccatctca caataataaa tggagataca ggctcaagcc agtattgacc gcatcatcat
64981 ttccacctcc cttctgagtt tctgagggta ggctttgtgt taaatcatcn taagtctcct
```

```
65041 acccagccag ccccggcaca ggacctggca agcagtaggt antgctgtat tgattgtgtc
65101 cagttatatc caatatatat tatattggat tagtctctct atataatatt ctacatatat
65161 aatatttata tattaatgca aatatttata tttatatatt ttcatattat tcatatcatt
65221 gatatattat tttataattt atgtaattta tattatttt aatatatata atttaaaata
65281 taaaataata taaaattaca taaaaatata taaaataatt ttatagttta tgtaaatatt
65341 tatatttatg taatatttac atattttatt cttatttaca tatttttaat tttgtataat
65401 tcatataaaa tattacatat aatatttatt aatataatat attattatat aatatttata
65461 atattgctat tgataaatat taaatatana tattaatatt aataaatatt tatttattgc
65521 atatgcagag gggnaggggg cacagctttg agctgaaaag tataaaatgt gcttctccat
65581 ctataacaac catccaccta cctttccact ccatctcccc ttacctttca cctgccggca
65641 ctccactata atcactgtca ggttaatcta accaaacata cctccgttgc cttagctcca
65701 ccttccttca tcattcaaag ttcagctcaa ataccacttc ttccatgaag cctttcctga
65761 ttttccagga ggaagcaacc actttgcctc tgaacacctt tagccctttc tccaaatctc
65821 ttctggagca tgtactacta cccaccttgc atcaccatgg tttctgcctg ctgcttggag
65881 acttcctcac ttgatggcca gttccctgca gccgggaatt tctttcaagt tttgacttaa
65941 ccccagtatt gagccaatga tttgaataga gcaggtcctc aataaatcaa taaatagttg
66001 aataacaaac aaattgaggt aggagtggca atctggggaa aaacagttat atgttcttaa
66061 aaactcctat tccaagtttg tagtttggga aaaagaaaag taaaatcagt ttttattgaa
66121 ttccatctcc tctctgcaga attatttttgt ggtctgttnt cattgggcca attacattta
66181 tgaagacgaa ttacgacagg cgagaaccca cttacatgga ttactgtgtg ctaactatgt
66241 aattagcggc cggtgactaa gaggggagtt tttggatatt tccataagag aaaaacacat
66301 tatgatccat aaaaaacaat gagcaatgat aatttcattt ttattggtca tttaaaaaca
66361 ttcactgata attctcccca tgcttaatag gcatacgttt gctgccttca aaatatactc
66421 ataaacttgt cgcagaaagc accgttacat aatcattcag ccttgcttcc attatgaaac
66481 ctaaatgaaa tactttcaaa gataaaaagt gtggagagct tcaagggcat tgaaacaggt
66541 ggtagcagtt atcctgaatc agcagggctt tcctgggaac ctggcatggg ccaggcccag
66601 gactaactgc tgcattgttc tggagccaag ggagtttcac acctgagagg gtttatcctc
66661 tgttttgcat ttgaattaga aaagaataag tccctgtaac cagcatccca tcctttccat
66721 aatcaagagg acagctggaa gtcctttcaa gggacctgga ccccaaggcc aggccaaagg
66781 caggtgcgta gcaggtgata ggagatctga actacatgaa tgaatgatga aggctgggtg
66841 ttgaaatgaa tgaatgttga aggctgggtg tccaaagaat ggttagttgg atggatgaat
66901 ggatggatgg actcagttga attgaatgga acgtctggca tgctgtccct tgaggttctg
66961 gcagagactg cactggttca cagcaaatct ggaaagagaa ccagattctc gggcacccag
67021 gaggcagtga cagtctccag agctgcctct caaattcaga aaggaaaact ctttcatgtg
67081 ttttcaaaac cactgtataa aattatttca atcttcctaa ctggaaatta aatcctccac
67141 atgaaaggcc ttttttcttt ctttgtgttc cttttggcca tgcaattctg ttctctggcc
67201 cctgactgac acctggcccc aaagcccact ttcctattgt gtacaaggcc agaaacccat
67261 taaggatgta catggagatt gaggagctaa tgtcggctct cagatctcag aaggaagaat
67321 ccagctccca ggcctttagg acatgctgat ttctttccag aaacaagatc catcaattga
67381 cttgtgcttt gaagtgcttg gaagcctgac aaatttttctg agcctggtat gtgtgtgtat
67441 gcgtttatgt gtgagaccaa aagggtgtgt gtgcatgtgt gattgagtat atgtgtgaat
67501 gtgtgtacat atgagcgtat gtgtttgtgt gcgtgtgtga gaaagtgtgt tcacacgtgt
67561 ataagtgtgt gtttatgtgt gagaccagaa gcatgtgtat gcatgtttat gtttgcacat
67621 gtgtacgtac atgtatgcat gtgtgcgtat gtacgtgtga aagtgtgttt atatgtgctg
67681 tgcacatgta tatgtgcatg aatgactcag ctgccactga gtatctgtgt tatctccaga
67741 attctccctg tgtggggcaa gtggagagga gggaggacac ggaaagctcc agggcttgcc
67801 ccctccttct gagcaccagc aagacgggtg accaccagca ggcaggtggg ccaagtccct
67861 gtctccatgt tggccctggc caagccccag gtgatgcggc ccctcccttc tgcaccagca
67921 acctcagttc tgccagcacc tgtggttccc acagctgcag cctggcctcc aaacggacgt
67981 ggcctgctca ccatctgccc tttctcctgt ttcctacatt gcacctggct ttcttctgct
68041 ccccaaacat ttccagcctg tacagctctc tgatactggg cagcagcctt agaaccaata
68101 tttgtcccag gaagatcatg ttgggagtat aatgagccca agccactcat ccctgttggc
68161 ctgggcacag ctctaaaggt ctgtcctcct gaacgttagt caaaccattg tcctgtgact
68221 aaaaagatga gacattctcc ctcatatccc tcaggaatag gtttggaatg acaccaatgg
68281 tcattgaaat ataatggaca gatcctccac ttcacagctg tatagtttga tgagttgtga
68341 tgtgtgtgca tactcataga ctcatcacta caatcaagat aatgaacaca tctatcaccc
68401 gcaaaagttt tcttgtgccc ttggtaatct ctcgcttatg tccccatcct tgagcagcca
68461 ctcttctgct gtctgtcact gtagattggt tttcattatc tagaattttc tagaatgggt
68521 cctgcagtgt gtcctctcta atgcctacag aagcaatgct cactatgacc acactgtggg
68581 catcctcaca catgcatgca caatgtccgc aagtcctcac cagcacgcac ccccagcacc
```

```
68641 aaattacccc ctaatcatcc ccccttacac ccattccaaa ccccctaggc gtaaagcgct
68701 catgtgcccc ccacccccac ccctcactgt atctgtcaat ccatgctgct cctcgggaat
68761 aattttgctc cattcatcag tcaaaataaa ctcctcactg tttcccagca aagcagtgca
68821 gctccttttct cctaagtcca catgacaggt gactgcagac ccaccgtcct cagcacgtga
68881 gccctttgta ggctctggtt caattctcaa aagctttgct cattcgacaa ctatgaagat
68941 gcccattccc ctaggcacta tatattcagc aatgaccaag aagtcacagt cccctctggc
69001 tatggagctg aatcacctcc ccagccagca taaccagcct tgtgctatgg ggctggccag
69061 aaggggaaac cctccggcac taccaggctg gctgaagaac caagtcacag gttcacaatt
69121 aagaaagaga ataggaagat ggcatggaaa ggaggggtga ggggaagagg aagagagaag
69181 gaccccaaac caagctcaga ccggtgtggc tggccaggag aggaggagtc ttccttcaaa
69241 ggtggacgct gaaagacagc cacaagacac tgtatggaga cagtgggaca gggcagggct
69301 gagcagagct ccanttgcta ggagcatggg ccatggctcg tggctgacca ccagccttta
69361 tgggacagga gaggggggctt gcacgccctg catcaaagcc agttactgca gggggctggt
69421 gtccagctca tacctcaggt ctaactcacc cctaagctgt caatctggat acacactgga
69481 atcattctag gagtttaaaa taatattgag ccctgggttc cactcccaga ttatctgatt
69541 taattgtttg agggaggggt atgtgtcctc ggcatatgca tttttaaaag ctccccaggt
69601 gattatncta atatgcagtc cagtttgaga acctctgtaa ttcttcattc gcctccagtc
69661 ttaggatagg tacctcccaa aagcaccgca ggatacaaga aagcaacacc actagaagga
69721 acgcctccaa tcccatctcc ctgcaaatan ccctaatggg aatttaacaa gatgacctat
69781 gttgattaga tatcaattaa ttgtgagaag aggactgaag atttcataag ccatcaatct
69841 cactgtcatg taattaactg aaattggnta taagtagtaa gtaaatgctc agtgataatg
69901 actttcttat caatatcaga tatttaaaac ctttcaggtt ttactggtaa ttcaatgtca
69961 agataattag gtatcagtca ggcacattaa atattgttta cattggccat tgttctttaa
70021 atctgtggta agacagttat ggggtcccnc agccaatggc tcttgcttat ttgggatgac
70081 acgtctaata cattgacaag tattagataa gataacatct gaataatgaa ctaccatgga
70141 aagtagagaa tgctgagttt attntcagcg tcacacgctg gtaccagaag cagacgtcta
70201 gtctaatatg ttatctcagc taagctgagc tattgaagaa ctactgcaaa atcccttccc
70261 cttaattaca ttttactgtt aattaatcaa attactttat cattaccttg atgccaactc
70321 ctatgaacca gattacttca atcatgtcga acctctactt ccttgtagat gtttttgatg
70381 tatggaaant cacgatgggg ctagaagcac tcatgactcc cgcatgaaga aaaaaaacta
70441 ttgcttccga ccatcaagct ttacagacat nggacctgaa tcatcttaat gtgtcccgag
70501 gaaggcagag gaggcaaggc atgagcgtgc tgagaagaga ctttacggga gtaaaagatg
70561 caggcggtag agtggctttg attaatagat ggtatcattc cgttgaaaac aagtccatct
70621 ggtatatttt aaaaattgtt agaggtgttc cagtgggtta tatccccaaa aggccacatc
70681 ataaaggtgc aataggctcc acatcagtgc cggccctggg tagaatgctg ttcttgctct
70741 catgaagtaa gggggaagga agagggtgct ggtcaagaat gtgggcttca gagtggaagc
70801 cttgaacaaa ctgcttaaag tctctaggcc ttgatttatg tatctgtaaa atggggataa
70861 tgataatatc caccttacag ggctatggtg gggacgacat gacatcattc cttgaactcc
70921 ccagctctat gtacatagca aaagttcagt aaatgatgat tattactatg cttcattttg
70981 ctttcattgt atcattgtct tgatcccatt cagtgccttt gggccgcagt ctcactttga
71041 tattagtatt ttcactccct cttctatggt tgtggttagg gctgaggcac ttttcctgac
71101 atccttttgc ccagaccttt attttttacc tttcttaatc atttctttct agatgagatg
71161 ctggtaaaca ggatagagcc aagctttctt tcttgactca gtctggagtt tctgcctttt
71221 attcaggggg ttcagtcaat ttcctctcat gggaataatt ggcacacttg ttttatttct
71281 gccctcttaa gttatggcta ctgtttattt tactttgtta ttgttttatt tttccttttc
71341 cttcatttat ctggctttgt taagtgacta tgcattccta tcctctccac tccatgattt
71401 tgaaaattcc ctctggcttc ccagctatta gcgatgacca ttctcatctt tatatacacg
71461 aagcaccctg tattcttctc gttatgttaa acagccctgt cctagcacag aagtcctctc
71521 ctagcccttc attgaggtct acggaatctc tcttcttcac tatctgtctc tgtctccctg
71581 atttttctct ttgtatttgg gccctaggtt ttgagatact tctactcctg atcttctgtc
71641 attattttaa ttctccatag agacaattct ctaattaata tattcattta ttatgtccaa
71701 acttcaagat ttaagaacca cttctaagtt tcagaaaatc tttacttcac tcccattgga
71761 tctctttaag agtttgtatt tctttttttgt ccaagctgtc tcctggatct tgcccagatc
71821 tatttcagac acagacacct gtcccaattc ttccactggg tctgcttccc tctggttcct
71881 gtccccctca tctgtggttt ttttctttgc ctgctcatgc tccctgtacc ctcagcggcc
71941 gactccagtt gtcacagccc aaccagagtg acaggcacat gggcttctgt tcctctggac
72001 tggcagtgac tgacctggcc ggcctctgct gagaccctgg aggatgcctc tctgctccca
72061 ggggaaccat gtcaatggta gcgctccccc aaactcaaca cctgtgagca attcagcctc
72121 gggtggaaaa gaaaaaaaaa tgacaaaatg actgcagcaa aatttaaatt ttaaaaataa
72181 tttgcaaatt ggtcattggc caaattgatt gtatgatgaa ttgactggtg tagacatagt
```

```
72241 ttttggtaaa tttgtttgct tcctcacaaa agaactggca atccagtttg caaggatact
72301 caccaaggcc ccttcccgcc ttgctctgga gagggtgttg agaggcagtg ggcaagtggg
72361 naggtgggga caggcgttca gccaccnatc ttccagagtt ctcattgtgt tgccactgga
72421 ngtcatctgc ttctgctttt ttttttttt ttttttttt tttntgagat gaagtctcac
72481 tctgtcaccc aggctggagt acaaaggcac gatcttggct cactgcaacc tccgtctccc
72541 gggttcaagt gattctcctg cctcagcctc ctgcgtagct gggattacag gcgcatgcca
72601 ccacacctgg ctaattattt tattttcagt agagatgggg tttcaccatg ttggtcaggc
72661 tggtctcgaa ctcctgacgt tgtgatccag cctcctccca aagtgctagg attacaggcg
72721 tgagccaccg ntgcccagtc ttcttctgct ttaaaccagg tgaattgtac ttgtggactt
72781 gaaggtgcaa gtgagagtgt gtgttgatac tggtgtccgt agctacaagc cctgcagagc
72841 cagctcataa cacaagtgcc agctattgct aaggagaagc aaggctgact tggagtgtat
72901 tttccagaat atgagtggca gctgtgatgc cctgctctgc cccgtgaggt ggngagccag
72961 gctgatgggc catgtcccca ggaggccagc atggggaggg actagagaca tcatactaca
73021 gaagactgtg gactgggctt gggggctgag aggtaggagg gtgggggggta ggagtcagag
73081 tgctcagcct agagaagacg cactaacatg gagtgatgtc ctaggaagag cgataggctt
73141 ctgtgtggcc ccaagggctg ggactgaggc agtgtggagg ctaggaagac cattctacca
73201 tcagagctta ccagcgatgg acttgtctag gaggagggag ctctccatca taaaaggcat
73261 gcaagccaga cctgagaggt catttgatgg agacagattg ggtaattcca gagcttcttc
73321 ctacctggga gtctgtaatt cctaaaatgg ctgagatgta atggttgggg gagccctact
73381 tctcaccaca ggntactaag attcgtgaac cctgaatgcg ctgagcagag gaatggggaa
73441 gctttgctat ggaaaaagtc acaataccct tatctttcct cctaagagtc ttacatccat
73501 cttgagggag taacctcttt ctttatttta ggcaaattat cgtgatgtgc tctttagtaa
73561 cacaaatact caccagttgt tcatggagag aactatgaga tcaccaaaga ccagcataca
73621 aatcttttaa attaaaattt ctagggttct ctttcacccc tcaagttggg aaatagtggc
73681 acccagtcat gtagctctga gagtctcttg tctcccaccc ccatatggga agatatggaa
73741 gctatagaga aatacttcct gcttctacgt gaaccgttgc tgcaaatgga tgcagattcc
73801 tcatttttctt ggggaaatgg gagtcctttt ctagggactt atttttttatt attattattt
73861 ttagatggat ccttgctctg tcatcaggct ggaatgcagt ggcacaatct tggctcactg
73921 caacctccgc ctcctgagtt caagtgatac ttctgcctca gcctcccaag tagctggaac
73981 tacaggtgca tgccaccacg cctggataat ttttttgtat tttagtagag atggggtttc
74041 accatgttgg ccagggtggt ctcaatctcc cgaccttgtg atccgcctgt ctctgcctcc
74101 cagagtgctg ggattacagg catgagccac agcgcctggc tgggacttttt tatgggagag
74161 gaaaatctga cctcagaggg aacacgctac tgttacctgc tccacctgcc cgctgaccct
74221 tcattgattc ctacaagaag agcctagtgg tctctggata gctagatgtt tatttccaag
74281 aatgggctag gtctgacaca agagcaactg ataactctgt ccaggcccat tgagtccaaa
74341 ggtgttccag acgtcacact aggcatgtag gaaacacaga agcagcataa gtgattgacg
74401 agtaaaagga gataagggtt ttgnacaaag gtgacctggg ttcgctgttg gcctatagag
74461 agcaaangga ggtgaggcct aggggaacag tgtggatgct gcctcctcca tgccccactt
74521 gcgaggccca ctcatcaggc aactaagcac atgggagcaa ggatctatat gtcactgtct
74581 tgcatcagat gctgagctgc tcaagaatgg gatcctctct ggtttctctg ctcactcctc
74641 ttcataggga agggtcagtc acattcaagg tatgccagga gcagaaagtg atgggagaga
74701 gtggagaagt ggcagtagct ccatcaagga ggtcttgcaa ttctagctaa ggagctggac
74761 ttcgagcagc aggtggcacg gccaggggag cagggagcgg aactgagggc atggtgggag
74821 tcagctatga ggcagtgagc tctgctgcat ccatggcctt ggtgggccat ctcggaaggg
74881 accagcagga cagtggctgc tccagaccca tcccacccaa aaatgtcccc tggagcagga
74941 gagagacctg tgggagaagc aagccgatat aaatcagagc taacctgtgc tgatccccgg
75001 ctccctaaat caagaatctg acaggttttc tgggcgagaa tcaatcttgc tgtccccaca
75061 gtaaatacca taatcctttt tccagtgtgg tttagagaat gtaactgcca tgctcatgat
75121 ttattcgaaa aatattctgc caggttatgt gaacgaatgg gggagtccac gtgcttttaa
75181 acaggagttc agggagctct caatgggact ggcactttat tcatggaatc agtcttctga
75241 ctcacacttg ctgaagtctt cctgggtgcc aggcatgggg caaggtacca ggagcgcagg
75301 ctgatgaggt cagggtctct gccctcgagg catgcacagc tgagcctttg ggtggtgacg
75361 aatagagtct gggtggtaag tgatgtgaaa tgaagttggt cagaaacaaa gcagtgtcca
75421 ggcagggtgg ggtgagagaa gtcacaggac ccatggccag accagcttgt gctcctgtcc
75481 acttgttact ggatcaccca gtgggtggcc tctgccggcc tctagtcttc ccccttcccc
75541 atcatccttt acttagacag cccccgacag tcaggcaggc tgatctctga tgcctcctct
75601 gcctcttatg agccgtataa ctccgggaaa gctgcttatc ttgtcttctg agcctgtttt
75661 ctcacattaa aaacaaggat aggccctgtc tcctagggtc attgtgaaga ttagagaaag
75721 caaacgcttc agacggcgtt tgaggtgtgt taatagccca ataatggaaa ctttttattg
75781 ggatgatttc tgatatctgg accctgcaca cccctccccc aaaattaatt tcttaatttg
```

```
75841 ctggaaaaga aagctcataa agtagattac ctgcaaaagt ccgaggccac cccgtctgtg
75901 gcttcactgt atgtcctact gccctgcagt ttcacaggtt caaactggca atcaaaccac
75961 aagatgcgta tttgcccatc aggcatcacg ctgacttagc tttataggag gacctgggat
76021 gggaaatgga ggctgcacag cgtcctcatc ccaccaggat gcccagagct gcccccaccc
76081 accacggaca cactgctcag ccaccaaagg gtcctcctcc atggggaatg ccaggttgac
76141 tctaggcagt ggacagtgga aaaccctgcc cacttccctc tcccgagcag ccccccgggg
76201 accggcnagc cctggcaggg ccagcncccc gnanctctgc atctctcctg tcctcactct
76261 agagtggccg gactttgtca acagctacgc ctcgtggtgg tcctcgcacg tcctggactg
76321 gctcaagtac gggaagcggc tgctggtggt gcactacgag gagnctgcgg cgcagcctgg
76381 ntgcccacgt tacgggagat ggtggccttc ctcaacgtgt ctgtgagcga ggagcggctg
76441 ctctgcgtgg agaacaacaa ggagggcagc ttccggcggc gcggccggcg ctncccnacg
76501 accctgnagc ccttcacccc ggagatgaaa gacttgatca atggctacat ccggacggnt
76561 ggaccaagcc ctgcgtgacc acaactggac ggggctgccc agggagtatg tgcccagatg
76621 ataggcctgg ncccacgccg ccgcccccgc tgagtgacgc aatcgcacca cggggctgcg
76681 ctccccactc tgatgctcag gcccgtggcc tcactgggac gaacggtggg tgggggggctc
76741 accctggtgc tgcctcccgc acaaggagac ctggacacaa cagacacaca tcacaaggcg
76801 aacacaaatg gacacacata cctggccacg aacccacacc tcctcagaca ctcagacacc
76861 actccaggct catagccccg tcttgatgca gagaagccac ccacgtgggg tgtgccaggc
76921 acccccagat acaaatngca gccacgcaca gacgtaacac acaggtgcca ggccgtgtgc
76981 tcctggaggc tggctggctg tctctctcac acagatacac gtgcgctccc tgggatccgg
77041 gaggccctgg gcttcctgtg tgtagccctg gcatagactt gctcgtcagg gtgttcgact
77101 ctgggatgct gggccgggca gacatttatg ctctgagcag caaggaccat tgggatggag
77161 gtgggcacaa agactgctgc ttccagggtg ntgcggccct ggccgtgtgt ctgacatccc
77221 ataaatgtgt gtgtggtgtg actacgggca ccacaaactc cgcagccttg cctctctttt
77281 ctctgtggct gggctggctg caccatgggc agggttgagg actgcccccc accccgccca
77341 agccaatgca gacactgacc tcaagaccag ccacaccaag tctgtgcact gcccaccacc
77401 cccttcaacc cctcctacac catgctcctg ggcctggggc ctccttgcct ggcttcttcc
77461 tccagctatc ctcagggaag ctggagattc aagtcatgcc ccagaagcaa ggtgtaagca
77521 tgggggcgtg gggaagaggg caggagctga agttccaggg gagcccagga cccctgggga
77581 cctgtacact agcaggatgg gtcttgggag ttggcatggg gagattgtaa gggctgtatc
77641 tccgcgatta ctggtactgg tgctccaccc ataggggccc tgttctctat ggggtcccac
77701 actgcggtca tgagagctag ttctcatgag agcagcaccc ctaggtctgg tcctgccagc
77761 ctgggatggg ggtcaatgta tgctacacat cttgggctca caagtgaggc tgtggaggcc
77821 aggaggttca agtatggagg gtaggagtgc aacccaggag caacgctcaa ggtggccgag
77881 atgcagggag gattgtggcg atccggttgc acactggcct ctgtggaggt cagggaggtg
77941 ggaaggtggg tgggcctgaa ctcaggcagc ccttcagtgg cttcttcagg cctaggataa
78001 ccctggccag gccccatggt cctgctctgg gtcagctgtc agggagacct cccttcagcc
78061 tgagccaagc tgcattggga ggagaaggca gggtgaggga tctgggagag caggatgttg
78121 agatatcctg accctctgct tcctagcctg atgatgggga acacagagcc acccgctatg
78181 agcacaggcc gggggtggaa ggcccagtag agctgccctt ccccagatgg aagcttcctc
78241 caaccttcag tttggccagt gggtgggttt gggcatctgt gcccctggtg gcctccaaat
78301 ccttcctggg attcccccaa acccacactg atgcgaagct gttcttgacc ctcccatagc
78361 atcaactcag ttcagctcaa agctagaaac accaaggtct ttgaaaatgt ttattggctc
78421 aggatagctt cagcatccaa tctgcgaagg cccctgatgg agctatttct tcctagtatc
78481 aggagcaatt gagacccctc aggagtttcc acactgctgt ggacgggata gccagggcag
78541 acctgcatcc cagagcaagc ctagatcctt gaaagcaatg tcaggcgtgg cagtggggaa
78601 gccatggagg ctgggaaggg caaagtgtgg agagaggagt gaccgggact ggagccaggg
78661 tctggggaga gcaacagcac caggcttttc ctggtagttg gattggtaca ttcactgctg
78721 ccaggtaccc agagatgtca tctctctcca ggtagagcat caccagctcc tgtggccttg
78781 tagatgactc tgtacctcag tgaagagtgc agacaagtag agtgatgggg tcagtgtcca
78841 tccagtttac gctgagtcag tccatacagc aagacacctg gcacttggca ggtactcctg
78901 gatgttgatg agcaaggaag agcaacggcc ctgtcagctg gcagtggtcc tcacagcctt
78961 catcccaggt ctgcctacgt gggagatctc atcagaaaca ggaacgggga tctgtctgtg
79021 cttgcaggaa agtccatttg tttttctcca agttaggtct catctacagc tcttagcttc
79081 tcagtaaaga ggatactctc ccaaccagcc aaggaataaa agctgatctg tatgtagggc
79141 agaagtgtgg caaatgcatc aggaaccggt tagaacagaa cagagaaacc ctgactgtct
79201 acagattcca actttaatag caagcctgtg gagttacaca aacctgtgtt aaaacatgta
79261 atttttatgg atttcatctc ccgttgtgga tcaatttgga aaaaccaaaa tatgtaattt
79321 taaaaaacta aaacacatcc tggtagtccc agtgatgtgt aaatgagaga gaagaataga
79381 caggcttcca aaccctggga agaaagctgc ttaattatgt gaacatctta taatgaagtc
```

```
79441 tcttgcagct aaaattagat tttgagtgca tgaatctgtg ataatgtttg catatcagaa
79501 tgcattctcc ccttaaaagt agcagtagcc acttggttct taggggccc caagaggaga
79561 ggagaagtgc tgaggttgat gttacgactg caagaattct tgggacacag gtttgttttc
79621 tgctgacttg ctcggaaacc cattggagng tatctgaaat gtgatgactc caaaggggtt
79681 catttcacta tagggagaaa ttgatntcgt ctgacttcct atttatcacc actcaatatt
79741 gggtgagttg gtctgaacaa ggtggggata aagtagagtg gaaataatgt agagtcgtca
79801 gactgaaagg ccaggttgta gtcccagctc ttatctgcca tcttggacaa agcttttccc
79861 atctccagtc tcagtttccc atccantaaa antgggggaa gtggtaggtc ttgctgattg
79921 catccacatt cattcctcca tttcctttcc cagcaacccc ccatttctgt ttgggaattc
79981 atatgatctg ccagagcctc tccaggggtg gaatacatgt cctggactaa gccaatgaca
80041 ccttccatct ttccagctat ggtgactggg ttaggtatga tcttgtgagt taagacaatg
80101 aagccagagg gaatttcaag acttatggga atgctgggta gaagctgttt taattcccct
80161 gttgaatgtg aaaaaggtag tagtattcct gggtctttat gatgaccacc ttgggccttg
80221 ggatcatgac caggaatcac gtgaagctga caccactgaa gggagagttg agaggcagaa
80281 agagatcaag tccttggtga aattgtttaa gtacaggatc aagccttgct tgagattggc
80341 cttacctctg gacttttttt gttatatgag ctaataaatt ctgtttattg tttaagttgg
80401 gttgagttta atttctgtta cttataactc agaacatggt gcaaatgggt tgaattgaaa
80461 agccctgggg ctctgacatt ctctatttct gtggctgatt tagataaagc ctgaaactca
80521 gtccaacttg agcttgtagg attgggaggt tacttttcac aggaattgag ctgagtgcaa
80581 atgctcaata gaaagctgtg cttagccaag acaagtagca tttttaagtt ggtacatggt
80641 gaggtcaccc atatagccat agacaataat tcataaggtg cccagcccaa accattagtt
80701 gtctcattta atgtttaacc ctttggtgtg gttattattt attatctctg cttgaaaaat
80761 gagaggactg ggattccaat ttgtaatgac tgtcaaagta tggccctttt gtagttactg
80821 taacttcttt catggagtat atgatgtggt attggaagga aattatttga taaattactt
80881 ggattgggga taagacctct ttagcccctt cagggttctg actgtctctc ctctcgagcc
80941 caaacccagc caggtctgcc tgtcagatac tctgagcagc tacgggaagg gctcctttta
81001 ttgcaaggaa gcctcatgta cttcccattt cagcctaata aaagaagcct tcacccaggc
81061 aggtctactc tcagccattc ccttcatcct aagagatgaa aggttgaacc tagagctaga
81121 aatatgttca gaggaatctg ctagtggcat ggcttgtatg cccaaggcat ggagtgtggt
81181 tactataagg ttctcagact gggtcctgcc tactcacagc cctggaggag gctgatggag
81241 accaagccaa ggattcatga ggagtagaca aggacagaac tggtttggga ctagatgatt
81301 ccctcccagt gcagatggac tggtctctgg ccagccctgt gcccatggcc tcacccaact
81361 tcttcacata cattgtgact cttctgtgag cagctacatg gttcccaagg caatgggaac
81421 gaagctgcta gccatgggga ctagccctgg tacagctttt tgctgtcaga aactgccaaa
81481 gaggtattga gtataacgtc ttctcaccta agagaaatta aattaactgg taacaaaaat
81541 attgatctgg gttttggcaa ataaagatca ggctgcaggt acacttccag agtgctctcc
81601 gattacacac acacacactc acactcaggg gtgtatacac aaacacatat acacgcttaa
81661 tcccactgag acatctactc tgtcagattt gtggaaatgc aataggaaat tggcctcttc
81721 ccagaagaac tgaggtgtca ctgagcccna aacttccctc ncattttcgg taaattgctt
81781 gatttctgca caggaccccc gccgtgtggc ctttagtcat ggagactgtg agaacaccac
81841 gcggagccag aaggagtgac tcccaaattc atgcaccgag tctcaaggta gtgggggaag
81901 atgagcagga cctgccatcc ttccctccca gcctggaacg ctcagttgct tcatagacct
81961 tgctcaaatg tcacctcctc tatgaagcct tccctgacct tttccgagta gattttatcg
82021 cattctcttc tgggttccag cagcaaattg gaacgacctc ttgttgcagg catcaatact
82081 tttgcctgct ggatctctta ggatttggtt cagctgcacg taacagagtc cctcaaacaa
82141 ccatggctta aacagaatag gagtgtagtc atccctccaa ataaaagccc agggttggga
82201 ggcaactaca caatcttctg gaatccaggc tactctggct ttttttttctt cagttctccc
82261 tggggtgtgg ttctcaggct cttagcacat gatggtggct ggaacttcag ccatcagagc
82321 atatccaatg ccacaggatg gagtgggcag gaatcaagga ggaggtgaca aaggattctg
82381 ccctctttta agaaaaattt tcaaaaactg ccacgcggca ctctacttca attacactgg
82441 ccaggactta gttacacagg catgcctacc tgccaggaat gcagggaaat gtaatgttta
82501 ggtggtcata ggcccatcta gaaaattcaa ctagtggcca ggagcagtgg tgactcacgc
82561 ctgtaatccc agcactttgg gaggcctagg ctggtggatc acctgaggtc cggagttcga
82621 gaccagcctg gccaacatgg taaaacccca tctctacgaa aaatacaaaa attagccagg
82681 catggtggtg ggcacctgca atcccagcta tgtgggaggg tgaggcagga gaattgcttg
82741 aactcagggg gcaggagttg agctgagatt gcgccactgc tctccagcct gggntgacga
82801 gagtgaaact cactctcaaa aaaaaaaaaa actcaactag tnatggaaga gcgctgatac
82861 tggagccaat gatgagtctt caccagcncc ctcccagcat ctctcctntg catcntctcc
82921 ttgccttgtt ctggttacag ngnatgcaga tctctatagg gggctactct ttttcctatg
82981 gatatagcct tggtnggtgc catcagccaa gaggccctga aaaagctagg ggatggtcca
```

```
83041 cattagacca atcagattat cttgcatggc cttaaattgc cagcaagtga tccaagatgg
83101 aaaatgaccg gggtgacttt gctcctgaaa ctggagccct gaaaacaccg tccattctct
83161 cctactcact ggatccttgg acaactctct ttncccgagc tttccnaaag cctggtgctg
83221 caatgtatct ttaattnctg tgagtcatcc cacatanctn tctagtgaat tcctcctttt
83281 tttgncttaa gttancccga agttncattt atngttngct tgcaactcac aatccctaac
83341 tgattctcct ctgttatgtc actaatcatg tacaatttac acacctgtgt ctttttcata
83401 taacttttta cttgcataga attgttgtac ttattttggg ggtatatatg atgttctgat
83461 acctgcatac aatgtataat gatcaaagca ggataatggg atatccatca cctcgaacgt
83521 tcacacttgt gtctttaacg agattaaact cttcaaagta gaaagcacat ttgctcatct
83581 ctgtgcatct gccccaaaga tcgacactct cccattaggg actctgtaaa tgtttgtaga
83641 aaaaacgaat gagagattct atgtgattct aaggacatgt tatgtgaact tacaaaagcc
83701 atccaacttc tttgcctcac tgtccccagt aaaatcccca ttagtaagtg ttaaacagtg
83761 agggtgaggg gaacggctcg tgtattcctg acttctccct tcactctcag aacttccaga
83821 acagaaggca cagaatgagt tccactggag agcagaacct gctgtcaaat ttataaatac
83881 tggctgggcg cggtgactta tgcctgtaat cccagcactt tgggaggctg agacaggagg
83941 aacaaaaggt caggagatcg agaccatcct ggccaacaag gtgaaacccc gtctgtacta
84001 aaaatacaaa aattggtcgg gcatggtggt gcacacctgt agtcccagct gctcttatgg
84061 ctgaggcagg agaatcgctt gaacccggga ggcagaggtt gcagtgagcc gagactggac
84121 cactgcatgc cagcctgggc aacaagagca aaactccagc tcaaaaaaca aaaacaaaaa
84181 caaaacaaaa caaaacaaaa agttgtaact accattgatt ttatgatcat tgctgaagaa
84241 agtttttcta aaatttacct actgaaacga tgtcaaattc acaccctccc aatttttcag
84301 tttctttatt tatctccctc actgaactca gatgcgtcag atgtatctca aatgactgat
84361 caccgcctgg tgtccnagga accgtgagac cactttcttt ctcagnctcc tgttccaact
84421 catgggacaa ccatgctaac actatgtgat tctcagtccc tgatgttagc taatttggag
84481 caagaggatg cctaatccat tgcacatcaa tcaaattctc tctcacaagc agttgtaatt
84541 gcccttgaga aatgctggtg tgaatcccag atgctcacag gaagagagaa tgtgtaaata
84601 cgagagggat caggcttttc tgtctggcag ccattgtgtc aaaaacataa agaaagtcaa
84661 tctgtagaga aaagggactg cagaggatgc atagagggna agccgaaaga gaaaacccca
84721 tggntcttag ggagagaaaa ccaagagaag cccatccttt ctgacagcgg tgcaaatgcc
84781 aaatcttttg cctttgagtt agttctgcga catacctgaa tccatgtact aaatactctt
84841 tgattttcct gagccactct gacatggggn acgtacaacc aaaagcctaa caaagacagc
84901 tgccctaggt caggcttcat cttctttcca gaagactctt gctaggctgg cttcctcact
84961 gacctccctg cctcctggct ccaccgccaa tccacctctc acatgggttt ccaggcaaac
85021 ctcaccgtgt tagtgcccct gtgtgcagaa aagagttggc gttaccattc ttgttttgtt
85081 ttgttttgtt ttgttntgtt tgtttttgag gcagagtctc gctcctgttg cccaagctgc
85141 agtacagtgg caccatctct gctcactgaa acctctgcct cccaggttca agtgattctc
85201 ctgcctcagc ctcccagata gctgggacta caggcgtcca ccaccaagcc tggctaattt
85261 tttatatttt agtagagctg ttgtttcacc gtgttgccca ggctggtctc gaactcctga
85321 ngctcaggca atcccctcac ctcagcctcc caaagtgcta ggattacagg cgtggggctc
85381 tggcattcta aaaaggcctg ttgcaagctc gcccttggct ggtgtctggg aacgtaggtg
85441 acagaagggt ccccatccta actgatgtga gcggcttact ctgcctaaaa tgtttgtgca
85501 aacagcgtgg tttaagctaa acacctgctt tgcctttggg agtctggaaa tttagtaagc
85561 attagaccaa gggtatctat gtgaccatcc ccccaataaa atctctgggc acggagtctc
85621 caatgagctc ctctgagaga caacatttca cactgttgcc ccgacctgtg gctcaggcga
85681 ttgagcacca catgtgcggc ttctctggga gaggaccctt ggaagcttgt gcctggtctt
85741 ccccagactt cacccaggag ccttttcccn tttgctggcc ttactctgta ttgttttgct
85801 gtgatgaatc gtagccatga gtgtgactgc atgctgagtc ccacgagcac tcttggccaa
85861 tcattgcaca aggaggtggt cccggggact ccagacacac cctactcgaa acacaagtat
85921 ccttccagga taaagcccac atcttcgttt gacaccagga ccactgtaag ccagctctaa
85981 ttgacatctc aacctcatct ctcctgttcc caacctacca ccttatgttc caattacacc
86041 ccntgcctct attacttacc actgtaggca cctgtctttc attcgcctgg gcccatctca
86101 ggaagccctc ctggaggatc ccttctatca gaacccagat gttcctgcct catgctctat
86161 cccacttcct aacacagatc ctggagtcct agaagtttca ccacacccat atcccaatca
86221 agggtgattc ctggaagtca ggggcgcagc ccatctatga tttgcatccg cagggacagg
86281 acaggcccca gcacacagta ggtgctcaat agaggtactg caagctttag cctccctata
86341 cagatgtctc tctcctctga aatcaggaaa tcaacacccc tgagacttga gacttgtggc
86401 cttgtgcacc tatgatcctt ttgataaaga cacttgagtg ccccccttcag cagcacatag
86461 actaaaattg gaataatact gagaagatta gcctggcccc tgctcaagaa tgacacaaaa
86521 gtttgtgaaa cattccacat ttttttttttt gagacagagt ctcgctctgt cgcccaggct
86581 ggtgtgcagt ggcgccatct cggctcactg ncngagctcc gcctcccggg ttcacgccat
```

```
86641 tctcctgcct cagcctctgg tgtagctggg actacaggtg cccgccacca tgcccggcta
86701 atttttgta tttttagtag agacggggtt tcaccatgtt agtcaggatg gtctcgatct
86761 catgacctca tgatccgccc acctcggcct cccaaagtgc tgggattata ggcatgagcc
86821 accgtgcctg gccgcattcc acatttttt aaactaccat gctttagtca ttatacagtg
86881 catacattga aacatcacac cgtaccccac aaacatgtat aactattatg tgtcaataat
86941 aaacaacaaa agaagtacac aaatcccctg actcggtcta gattccaatt tagactcagc
87001 atatatgatg gagaacctaa aagtgggggc tatgcactga gattccctga tctccacatt
87061 acatgacact gtcagagaag aaaagccacc taaccgaagg tgcccacatg gtgagaggca
87121 gagctgggac tcaactccag acgagtcacg tccagaagtg ccaccctgtg aacactgtgc
87181 tcgaatcatt gctcacagta tgcagaccta gccggagaac ccttacatca agggcaggca
87241 cacctttct gtaacaggtc agacagtaaa taatttaggt ttgcaggcta tgcaatctct
87301 gtcacaaata ctcatctttg tccttgtcat gcaaaaagaa gccatagtca aaatgtaaat
87361 gatgggtggg tgtggctctg tgtcaataaa actttattta caaagacggg aagtaggctg
87421 tctttgtaaa cgaagacaga caggcaggcc atagtttgct tatccctggt ttaaagatta
87481 gggtttttcc agggtctggt ctggagcatc tgaaagcatc accttctgct tccccgtctt
87541 aggccttatc atgtcggaat tgtccatttt cctgtttggg tccacagcaa ggctgggagc
87601 cccttgaagg cagaggctac accttgttca ctgttgtgtc ctggggtagc acactggacc
87661 tgttatggag cgcttgctca gtaaagcgtt gttgaataag tgaacaaatg aatgagttcg
87721 tgaattccag cgtgggaata aaaagtctag aggatttaga gtccagcctt ttggtcgaaa
87781 gaggggggagg ctggtgcgag gtgacacttg ccatggagaa tcagaaggtc agttggctga
87841 aagttcctgc atccaaagct ccttgttcct ggcttgntct ggaggggagt tgaggctgtg
87901 gtgccatttt tgatgcatta cggctgggga acaggaagct tgatcctgcc ctgacaccca
87961 cccctcctgc ccgagtgctt ctggaaggag ctatgcagac aaggaacaca accagaatgg
88021 aatttaaagc ctattgtgcc acaaatatat atgtgtatgt gtatgtgtat gtatatgtgt
88081 gtgtgtacat atatgtatat gtgtgtgtat atatgtatgt gtgtgtgtgt atgtgcgtgt
88141 gtgtgtgtgt ttatatatgt atatgtgttg gaaccctaac cactagtacc tcagaatgtg
88201 actttatttg gagatagggt ctttataaat gttatcaagt taaaatgaga ttattagggt
88261 gagccctaat ctggtatgac tggtgtctac ctacatgtta aggagagagg cctggaacag
88321 acccatcctt catagccctc agacgggacc aacccagatg acacctagac tggagacttc
88381 tagcctccag aactgtgaga taaatgcatg ttgtttaagc catgcgctgn tggtgctttg
88441 acgncagaag ccccagcaaa ctaatgncaa acctttgact tggaaaggag cagcacaagc
88501 agctcatatc ccgtgccctg agctgatgca gagatctggc aaagttggag ncacaccacc
88561 aggctcgtat tgctctgctg tgaaggcatt tattagaaag gagttttcaa agagctgttg
88621 aaaaaggaaa gggtggctcc atctctgcat tcatccattg gctcaatgag ncntnctgtt
88681 gctctgcccc aagtcctgaa acttcataga gggtgtcagg gttgggtgag cccagaggct
88741 gggagcccag ggaaaggagc tgaggcaagg acttaactga gataatgtga actagatggg
88801 gggacgggcc gtgtggatgg agagcacgga ataaatgcgg gacccatgtg ataggaggtc
88861 tgtcccctct aacccagacc ctggcactcc ccttccttcc cttcattcct aattaaatgg
88921 aggtggcact ggcctcatgt gtatttcagt cccagttata ttaatcttgc tgagttccta
88981 ggccacgatg gctctatgaa tcctgccttt cctgagctaa tggggtggca taaataactc
89041 caggggaagc atgcgccctg gcagctccta agtcaggctg gagttaatca atcctctgct
89101 tggagtgtag ctgaaggctc agatgttagg tcagaggttg tgtctgtcta tgggctaatt
89161 tccttctaac agatgccact ccagaaagtc taggtgcctt cagaagaaga caaagtctag
89221 gtcagaagaa ggcaacagtg ggaagttaag aatctgccct ctggggtgag tgcggtggct
89281 cacgcccgta atcccagcat gttgggaggc tgaggcaggc ggatcatgag gtcaggagtt
89341 tgagaccagc ctggccaaca tggtgaaacc ccgtctctac taaaaacaca aaaattagcc
89401 aggcgtagtg gcgggcgccn tgtagtccca gctactcagg aggctgaggc aggagcatcg
89461 cttgaaccca agaggcagag gttgcagtga gctgagatca caccactgaa ctccagcctg
89521 ggntgacaga gcaagactcc atcaaaaaaa aaaaaaaaaa aatctgccct ctgatgttct
89581 ccttggctca gaggcagatg gaaactcagc cagctcgtga gtgagttaag gtggctgaca
89641 ctgcatctng gtggttccac caggctcctg ggagaggctg cttcatcctc ccactgcagg
89701 cggcagaggc cctgtcagag gagtgctgct catctgtctg ttctctgcgt gtggcccttc
89761 agccaatggc tgacctgctc cagccccatc agagcctcca tctcctccaa gagatgggat
89821 gcacagggtt tacaacatac tcctgcagcc agactgcttt agttcagacg ctggcttcat
89881 ctcttacttg ctctgagact ttgagcacgt tgcctagtcc tcggatcctc cacttcttca
89941 tttgtaagat aggtgggtaa taatgaggac aacaatctag gctgacccta cccaatgaca
90001 ggacttattg tatggactta atgagcgacc tcatgtaagg tcttggggca gggcctggca
90061 catcagaagt gctcactaag tattagctat tattagatct ctatcctcgn gggngacctc
90121 atctgtcctg gtttcnttgg gaagcatctg cagcagctca tggatgcctt ggccttcctt
90181 ccagcatcct aggggaaggg cagggctaag anagtaggtg cacagggacc ccatntgctg
```

```
90241 gggctcntga ggctcctgcc agcttgnact gggattnttc catgccccag catgggcaag
90301 gggtcaacct tcagctccnt cagatgctct gctgatggtg ggccactgcc agcctgcact
90361 gtgacaggca gtgggctgan gccttctggg cagggtcatc tctcaaactg cctcnctggg
90421 ctccatgctt cncaggactc tgaagacagt ggagaggggg gttcaagcac ctcctcactg
90481 gtgcatagaa ctttacagtc tacaaagcct ctttaccccc tttggagatc ttttttgaat
90541 ctctccagag cccagggaga ctggcatttc acagaggaag atgctgagac ttgcagaggg
90601 ggtgtgattt gcccgagggc acacagctag gacagtgaga cctgtcttgc agctgcccag
90661 cttattcagc cttccccgct ctggagagac ttggccccag gctctgactc ttaaccaaca
90721 agcctctccc agtgagtgtt ttggctcctc agcccccgag agctgatctc aggctgttcg
90781 ctggggacag agagcaggag acctcctaca ggctatgaag gggtggaccc catcacccag
90841 cagctccaaa tgggagcagg aagtctggtt ccaagaggcc ccatcacaga cttattttca
90901 gaagtcattg ggacaaaccc aactcccaga gatggaggct caattcatta agcttagatg
90961 attaattaca gggcaattaa atatttgatt aaattaatgc taaggtgttt aaacattgtt
91021 ttgcaaagaa tgtttgctca ttaattagaa tggctaatgg cacgaacaaa gcagggatgg
91081 gggctcgggg gagacaagga agcctggaac tcaacccttc tgaggctgtc ccctggagag
91141 gcaggagtcg tctctgcctg cagcttcccc acctgacctt ggcacctctg tgctctcatc
91201 tgcaaatgtg ntccagggag aatggaatcc tggaaggaga cgtcagccag gctgggggca
91261 ggaaacatga gacctagtcc tgactctgtc actgacaccc tgattgcctt tggaagagtc
91321 tctgccctct tggtctcagg gtctcagtcc tcccatcagc acaattggtg agagtatcaa
91381 ctctccaaag tttcttctgg gntcntgacc cttgaggagt tttgcccagt aaggtcaaca
91441 ttttcattgc taatcaaaaa ggagaaaata gggcagaaga atgtctacac tgctcctgat
91501 cctcacctct gtgggttaga tggtgtcttc tgcaaggcct ctccctccag gggatgccca
91561 gctctgactg agcatcatgt ggccttcaag ccttgaggga ccttcaagcc tatctagttt
91621 gatgcataag ccccctccca tccctcctcc agtggttgtc catttactca ttaagtaaac
91681 atgtaggcaa ctcctgctat ctatcacaga gatatctatc ctgctatcta tgtctcctgc
91741 cctctataac agggatggag gggtgaatag gattgacagt gtctctatcc ttgtgaggtt
91801 aatggtccag taggggaaat tgacattaaa tagatcattc cccaagttct tccggaatgc
91861 gtactacttg tgttgtcaca cgcttagatg tccaacagag gaattgtctc tatttctaga
91921 aataaatgta atctgtgact ctgagccatt ggcctggtgc agatgccata ttccagttta
91981 ttgttgaaag ggtcctttgc aagaacagca cctcatcgac gctctttggc cacnggcact
92041 gggaggcagc agggctgaca gtgaagggct cagcagacag cacaaatgcc catgggccca
92101 ccccattctt gagtggcagc agaaagtgtt ccttcctaac attgctgcag ccctgggttt
92161 caggagctgg ggtttctgac agtgaacagt cacaggcttg ttggcatccc catggcctgg
92221 ggcatggaga tgctggatca gagagacaca gcacagtgct tccccaccaa gaggtggtca
92281 tgaggcttgg ctaccctact gaggagtcag acatggtggt aagaactgag gtagggtctg
92341 agtcaatgag gaaatcatgg ctcttcctcc tcagagcagt cttgtgccct gcctgggctg
92401 cagcagcagg tngacaagtg acaacagcca ctctatcnag cagtggctgc cnagcagagg
92461 ggaccnaagt ccaggtgggg aacctccccc tnactaccaa ccgctgattg ctcagccata
92521 gcagtggatc ctctcctttt cctgtggggt gggccaggag aggctgggac ctgttgggag
92581 ggttggggag agcattcacg aggactgaat tgttgatcct ggactgagtt gtgaaatcaa
92641 tgaatggnaa aggaagaaag tccagtatag aattaactgg gtgtcgggga ggtgggacag
92701 ggagggaaga agccgggcaa gagtcagatc ccaagtgaac tcccggcttc ttgggctgat
92761 cctgtgagga tctctggcac ataaattacg cacagtttgc ccttgctcca cagttgggca
92821 ttcttattcc tgcaccaggg attggctatg ggctgccctg acaagtgcca gaaatttttg
92881 ggcactgtct cttcctatgc gggcagggct gtggcttcag tagccagaga gcgggtctca
92941 agagtcacag gtgcaggtga ttgaagaaaa aagcacagag aaaggagctg gggaggatgc
93001 gctgtgcata aagaggcctg ataggtcccg gcagagcttt aacaatgacc caccctccgg
93061 tccatttcag ccctctacaa atcccagctt catctctccc gttcatcctg agctcattcg
93121 attccacttg gtgtgaaggg gaagcgtagc ctagaggttg agtctttggt cctttaaaag
93181 cagaaggggt tattattatt ttgtctctgg actcccatac ccccagcaca ggatcaggca
93241 ctatacacag ctggttctca atcaaagtca ccttctgtct gttaaattgc acagcttgga
93301 tgaccctgga gccttggctg atgtggtggg tgctagtgtt ttgctaccat tgcagtctag
93361 gcgagggatt ccccaacagg cttgttccag ggcanctgct ctgcagaggg tgacagctgg
93421 gatttgtccc ctgagccaga agggctccag tgctggccca gagctgtgtc tcacatttta
93481 taaaaggctg gccttgtggc ccagggccag ntgaggccnc gccagctggc ctctggcctg
93541 catgtcccgt tggagtgccc aggtgcccag aatgggggct tctccaggca aggcagtact
93601 cctgcctctt gctaagccct gtgctgcagt tgccaatggg cgttaggcac aggggtggct
93661 gagagatgct gtggtctgca gccatcccag ctcctgagag aggggtctgc acgtggccag
93721 gaggcttgaa gctgtggatg aggacccctg ccctgttgtc cttcgtgcat gacaaggcct
93781 gctgcaggag ccgcttgtcc tgtctcatta ataccctgac ttcactctcc ggtggcctct
```

```
93841 gttcttcagg cccactaaga acagaggtag tcagaggggg tccctccctt aagagactct
93901 accagggtgg gtgggcagag acaggcgtgt aaaccagcag gtgaagcacc accctgagtt
93961 cactcgttcg ttcgttcatt cattcattca ttcattcatt cattcattga atgttaagta
94021 ggntactggc aaggcatggc ctcaccttcc tggaatgtct agtgggggag acagaacaaa
94081 caagcaaaca accacaaatg caaatggaat gcagatgctt gttagcattg tgaggggagt
94141 caacagggtg ctggctggag cagcataggg aagacgcaat ttacccaggg tcagggaggg
94201 tctctctggg aagatgacct ttggaaactg acaaaaggca agggaccaag gggaaggtct
94261 ggagcagcca gggctgaggt cctgggagga gctgggtgtg atccgggggc agcagtgggc
94321 caaggagggt aggagccagg aggagatggc cctaaggagg ttggggaaac agcctgggca
94381 gccctgggag gggctttgga ttgaatcctg ggtgcaagtg gaaggcactg gagcatttta
94441 tgcaaacttc agctgataag tatagatttt gtcttctgga aggcatgttg aaaatgggca
94501 gatgatgaca ggcatgcaag taggaaggtc agttaggagg caatggtaac agtccaggtg
94561 ggcctaagca cttataaccc taagccctgg ttgttttccc cacacgaggc tgttgtctgt
94621 gccctaatag gtcgtgccct gacacgtntc accacaggtg ctgtggtcag ttgagatggg
94681 cttccagatc cagggtttgg tcctacttgg cagattctgg ctggtaaaag ggtttctgtt
94741 tgcaccacgt ggtgtggcag ctagagagcc aggggagata ctgagccctg ggagaccccg
94801 tgtagagaag agcatggggt aataatcagg atgccatcta gagaaaccct gatgagtctg
94861 gaagaaatac gagcagttgg tgcaagaaca ttccagaaag tttgttcagc tccaaggaag
94921 ccagctaggg cactggactt ttccacctgg aggctctaca gagcagcagg aggcttggca
94981 ggaggcttct ttgtaacatg ggcttgagga gttcctagaa attgagtggg agttcaagat
95041 cagagagagg caaaccttgc aaagaggcaa agcagtggta tgactccaac ggcacagcaa
95101 gaacaaacat ggctgggttt cagatttcca tgtctgcttt tcttttaatg catcttccgg
95161 taggacattg aatttttcac aatatcagcc tctcaggtca cctaccatgg gaggaatctg
95221 gcacctagta aaagcaccat ccaaatttgt tgaaggaagg aagaaagaag gaaggaagga
95281 aggaaaagga aggagaagga agggaggaag gaaggaagga aggagaagga aggaaggaag
95341 gtaggcaggc cggcaggaag gctggcatta tggagaactg gcagaagcaa gagagggaag
95401 gaaggaagga aggaagggag agggaaggaa ggaagaaagg gagggaggga aggagggagg
95461 gagggaatgg agaactggca gaagcaagag aaggaaggaa ggaagnggag gaagggaggg
95521 aggaagggag gaaggaatga cttnatggag aactggcaga agcaagagct gagcgctgca
95581 gtttcagcca agtggtccct tgtagatgac cctggancgg tcaaggtgct gatgcctggt
95641 ttctctcaga agctcagcat gactatgtcc catgcagggc cgttttccct ccctgatttg
95701 aactcgcctc gtaagtttat ttatacctgt ctcaggacct aaagccagca ttttccnctg
95761 gtgacaggca ccaacaactg gacaccatct cttaccagaa acccctctct tttcccccag
95821 ggcggaccgc ncacctaccg cggatgcttc cgactgccag agaacatcac acatgccttc
95881 cccagctccc tgatacaggc caatgtgacc gtggggactt gctcgggctt ttgttcccag
95941 aaagtaagac caagtgatca tttcacaacc ctttccttta agtgtgtgtg gtggtcctga
96001 gagaggggag cacatgtgct gggctgcggg tgtcccctct ggcagtccag atgggagcag
96061 aggaaggggg catggatggg aggcaggcac caggtaccac agagggagcc ggcagggagc
96121 ccttcgcctc tgtccaccat gtgaggctgg gtggggaatt gtcagcaagg cttgtaaagc
96181 cgaaaggaga gtgcctttct ggatgcgaac tcttgccaca agtgtcagat gttaaattga
96241 cttggtttgg aagccagaag atgctggctc gggacttggg gatagctgat ggattttctg
96301 ttattggtgc tgacggtgtt gggccgtgaa tctgatgaca ggggctggag ccacacttgc
96361 atctttggtt tagcctgggc tgaggagtag agcgtgaccc catggagggg cagggctagg
96421 caccaaaggc cactgacccc gcattgcatg gtagctctgg ggtggggaaa gttggtcaag
96481 gccagaggtg gcttgcaaaa agcagggcct ggagtgtgtg aagcaaggct gggggagacc
96541 cagcagactg tgtccaaaga acattgagat ctcgggctgg agtcaggcag actccagatt
96601 ggggtggatg ctgtggctct agaaatggcc cttggtggca gtaggcttgg ggctggggct
96661 gtttcacatg cgctgggatt gctgtaccct caatgtggct ttgatacttg gcaatgtaat
96721 agaacagggc taaggtgaga ggatggcctt ggccaggatg atgatgacga ttatgacana
96781 tcaacagaag ctgccattcg ttgatcgctc attccatgcc aggtactgtt ccaagcgctt
96841 tatgggttaa ctcatttaat cctcctaaca accctacagc taggtgctgt gattatctgc
96901 attttccagg tgaggaaact gaggcagagg gtttgagccg tgtgcctgag gtcacacagc
96961 cagtaagtgg tggggtcagg gtttgaactc aggtagctcc atagtctgct gtgggttgaa
97021 gggtgcaggg gtggacttca atgacagcag atgtgatcgg atctgcagga gcagcacagc
97081 catcctctgc tgcacccccc cactcccgct ctccctgctt catgtgttcc tccgcactct
97141 ggggacacct cccttggagg gggctggaga acaagggggc tggacacctc ccttggaagg
97201 ggctggaggg ggctttcata tgtgctttct tcttgtccaa gtgcatcctt tgaagtggct
97261 ctcctgcgtc accagcattt ccgaagccac agccaaggat gacttgggca tcagggcacc
97321 cacgacacaa ttaaatgagc caaaaaggca gtttgttgat ttgcggacat ctggcctggg
97381 gacctcctca tcccttctcc tcctcatggg agcagagcng atngggtaga ggcagcaagg
```

```
 97441 atgcgcgctc agctgccggc cctgctggtg ctctcaggag aatgagccac cctcctaggg
 97501 cnttccctca cacctgcagc tcagagcagt tcccttgaga ggccctctgg ttggaatcaa
 97561 aggaactctg tggtccagac caggctggag gcaggcctgc ncttgagcaa ccagcttgga
 97621 tagtcctgct gtgtgctggg catggcacta ggagccttcc tgcggggggt tatctgcttt
 97681 aatcctccca gtagctccca atgggggata ctcagatgcc tgcttgctgc gagaggctgg
 97741 gcaggtgtgc agagctgaga gccctcaaac acaggcacag agtggccggc tttgcagctc
 97801 ctgctcctga tgccacacac agccacacac tggcacagag cggccggctt tgcagccctt
 97861 gctcctgacg ccacacacag cccgtggttt tacacactgc tgccattcgg cgttatggaa
 97921 gggggaagag acggagaaga tgaggaggaa gagaagggaa agaaaggggt ggccattgtg
 97981 gccatgagcc attagtgttt cggactagtt ttaaatagga acatgcttac ttggagcata
 98041 atgaagacgc cagagggcat agcagggaag ccttcctctc actccatgca tttccttgcc
 98101 tggattgtcc tggcttctca tgtctacttc cagagagact gaatattcaa gcaactgcat
 98161 ccttgcccat tctctaacaa gccccgcagc cgggcaggag ctgcacccgc ccttctgcac
 98221 tgaactcttc accggacagc ctgtctcgga gattgtctca cgtcgcgaca caaagtgctt
 98281 tctcattctt ttttaccatt gcacggaggt cctataattt atttaaccag tttagcattt
 98341 cgcctatttc cagccttcac aaacgatgcg gcagtgacta cctgtgtatg tacgtagatc
 98401 actttgtgtg agtgaatctg taagaaaaat attccttgga gatgctgggt caaagactga
 98461 gtgtctttat cattttggta aactttgtca ggttgtcctt ggcgaggatt gtattcattt
 98521 tataccccga tcagtgatgt gtgaggggga ggcaaggcac cctcgtaacc cttattttgt
 98581 gtgtgttggg gggctcaaag cagcatnttt aggcagatgc ctcagttttc tgggggtcct
 98641 ccctttngtg tacctcatta gggcccagag agttctttct tctttttttt ttttttgaga
 98701 cagtgttccg ctctgatgcc caggttggag tgcagtggtg tgatcatagc tcactgtagc
 98761 ctctggctcc tgggctcaag tgatcctccc accttggcct cctgagtagc tgtgactaca
 98821 ggcacacact accatgccca gctaattttt ttgtgtattt tttgcagaga caggggggcg
 98881 gggtgggggg gggtctcacc aagttgccca gactggtctt gaactcctgg gctcaagcaa
 98941 tctgccctcc ttggcctccc aaagtgctgg gattacaagc atgagccact gtgcccggct
 99001 ggtccagaga gtttgtattt gtgattacag acaagaattt aaaggcttat aactcttcaa
 99061 cttgtatttt cagccttcct tcatatttac tggcataaat ccagattgct gcagtttcac
 99121 actggagcat gtgccagaag atacacgcag gctcttggtg tcttgtgcta tcacacatta
 99181 gcaccttgtc catctcccct cacaacgcat ttcaaggaca agttcccttc tctgctatgg
 99241 ccggagcagt cgtgaattgt ttgggtcaga actacatgga aagggcatcc aggtttctca
 99301 gaaacagcct ctgtcctcag cactcacaac actggagcca gtgctgacac ctgatcctta
 99361 tccgggctgc ctctgcgtgg tcagatggga ctgggagggt ggtgtttcct gagttccatt
 99421 gtttagggct gcaacatttg cagctgtgag gaacagagtc atcatttcca gctttaaagt
 99481 tntaaagtgg gtattggcag cgcatattta gtgggacttg gcaaaacgca aatgctgaga
 99541 cggtgggcac agccaggggc aggtgactct cactggtggc agagtaaggg cagtgcctga
 99601 agaaggtgaa gaaggcttgg aaggaggctg agaaaggcag atggttgcaa cttttgggaa
 99661 gggttggagc tggaggatgt ggggcagtgt tggcaggtgg ctgaggggat taaggagtgt
 99721 gttccaagaa gaggcaactg ctgagcagga accaggtggc aggaaagcag cccaggtggc
 99781 ccagcgtgca gggttacttg gggggctgtg aaaggtcagg gggtacaaat tgcagagggc
 99841 tttgtgatac aagagttatt aagaagttat tttaggcaga aagtaaggtt ctgggtggaa
 99901 attttcctgt aataagaaac aacccnccaa accatctctt ttctaancag aaaaggcggc
 99961 ttaaagggnc caggcacggt ggctcatgcc tgtaatccct gcanctttgg gaggcntgag
100021 gtgggcggat catgagttca agnagattgt gaccatcnct ggccaacatg gtgaaacact
100081 gtctctacta aaaatacaaa aattagccag gtgtggtggc gccntgcctg taggcctagc
100141 tactcaggag actngagggn aggagaatcg cttganaccc aggaggcaga ggttgcagtg
100201 agccngagat cacaccaccg cgctccagcc tgggcgacag angcaagact ctgtctcaaa
100261 aacaaaaaaa ananagagag caactgggtt cactcaatat ggtgattccc actgtctttt
100321 ccttgttacc aggtgtaccg agtgtcatgg ccacctccag ataacaccat gtgnttcaga
100381 acatcatgat gacctgcatt tgcatattaa aggactaagg tgggagggcc aggtttttca
100441 agggctacgt naaatgacac acctggtcaa accaatcccc tgggccttat ggaacgcaga
100501 caccgcctcc tccnagcatc ccaatataag cagccacttt tccgctgcac acggggtttt
100561 ctctttgttc aaatcccccc tccnctctgt ctctgtacgg ggagctgttt tcttcttcct
100621 tccttctttc ttgcctgtta aacttttcac tccttaaaat caccccacat gtgtccatgt
100681 ctaaaccggc acgagaccaa gaaccctggt gtccctccag tcnatcagag ccatatagct
100741 tgaatgcctg cctcaaggtt gagacttttt tcagtgggtg ggaggggctg gtatggcttg
100801 tgtggcactt tatagctgca ggtaggatgt tctggagcac ggagaggatg agagctaata
100861 aagaagggag taggtctaag agactccaca gggttggaat ccacaagaga ggatgtgggg
100921 gcatgaaaga aggagtggga acccccaggg aggaggatga ggcatggatg ggtttgtggg
100981 tgagcggggc agctgacctg tccaatgtgg gagggaagtt ctccttggat ccttctggga
```

```
101041 tacagcattt ctcaggggta ccctcagaga tgccttggca aagctgccac agaagtcgac
101101 ctgtgacctg gttctggagt tagggatttc aggtagggca agaacagtgc cctggatgtc
101161 atgcctttaa gtcaaaccgc catctgccca acggagcgag cctttggctc ccagattgtc
101221 catccattct cgcttgtctc gcccgtggat gtgggtgtaa cttgaactca aaccgtctgt
101281 actgttagcc cctcagctct gagctctgca gatgcccggc aggggttttg ctggaattct
101341 gacttcactc tagagcaggg gttcacagcc ttggatctgt tggcatttgg ggttggatat
101401 tactcatgtt gggatctgtc tgtgcattgt aggatatcta gcagcatccc tagcctctac
101461 ccactagatg ccaacagccc atattccctc agttgtgaca cacagtcccc acacattgcc
101521 gtatgtcctc tggagggtaa aatcacccct ggttgagaac cacagccctg gagagccacc
101581 tgaagatgcc aggcagccat gcccagtcat ggcccatatc cccgtggggc tgaatcctgg
101641 ggagcgatgg tctcttccaa ccattgtgag gatggagaag caaattctcc ctctagcatt
101701 gaggtctgac ggatgtgaaa ttgtttggaa gttgatctga cccagacctg cagaggccag
101761 agaactcttt gcagggaatg gtatcctctc ttccctcctg aatgttgagg gtggcgagag
101821 aggtgaatct ggggatgtct ggccgtattt gcctgctctg aagtgccaag cacgtncctc
101881 tctggaaagg ccagtggtgt ggaggctgcc tggcagtccc ggtggcagct ttatctcatc
101941 ctaatttggc cgaaaaacaa gctcaaatgt cctatgatgt gggaatggtt aaattatgcc
102001 acggccatac agtggactat aatacaacca ttgaaaatgt tttcaaagac tttgatgatg
102061 gaaaatgctc acagtagaat gttaaatggg gcagagctga gcctgggggt aggaagctag
102121 gggcttaatt agagctggcc gggcagtggg gctgggagca gcagatgtga gaggtggggc
102181 ttggaaacag gaaaagagga gggggttcct tgtagtgccc ccacctttga gcaccatctg
102241 aggcttattt gtggccccag ataaaatgtc tactgttttt gctagttcgc gaaaatggat
102301 ttggggagat ccaagagtgt agtttgacag aaaaagaaca ttccaggtga tatctgcatc
102361 ttaatgatct gactctctgc cagcaagagg gaattgacca atgtaatgtg tttttaaagc
102421 ccagtgaaat gatcttgtct aatttcctgt gatcgtatgg agatggaaag agacctgctc
102481 gttctcagtc cccttcagga tcctatcggc tccattgttt caacgcaagg caagagtgag
102541 caggggggcag cggcaacata taaatggcca ccaacaaaca gatgggacaa atagagttcc
102601 agcctgatat ttgtgctcaa gtagataggc catttgtggg ggtgctccga aaggaggctg
102661 atgagcgaaa tctaacacca tctgcaaata ggttactaat gtgagacact ccaccggcga
102721 ttataccttg tgatgtgagg tttgttctcc cagctgctgt tagtgattct actgataaag
102781 gaatcgcagg gagaggagga agaaaggtgt tgagctttct ttttcccctc ttttagcctc
102841 ttttgggcgt ctaaattctt tacgcattaa tcacctggat gttttcccat tgacatttct
102901 tctaagtttt tttgcttgtt tggccattta atggtggtgc tcatctagcc acctttcaaa
102961 tggaaaagca tgcattaata tggaacctgt ttgttctcag ctgggcagct gctcttgcaa
103021 aatccacttg gattccaata gattcggtct atccaaggta gccttatggt ctccatgggg
103081 cacccaagtt catgtctttg ccaatggttg ggtctgtaag agtctngggt tttngtgagc
103141 cttgagaata agaattttct cttntgacaa aatgctgtag tcattccaag agctattgng
103201 atatgctttg aattgcttan taaaaagtct gtggtaaacc tgttgatact gtactctctg
103261 catattttga aaaacacgta ttgtttgttt ttctgggggg ttaacacata tctattttag
103321 agaatttgaa aattttccaa gtgcagaaat aaaaatagaa tgcacctgta acaactaata
103381 acattgaaca tctttttggt nctttttgttc taggtgtatn ctctacgtaa tttgttttat
103441 aaacattgan ctcattcctt ctcacatttg ttccnntttt tctcattgan atatgttgtg
103501 angcattttc tttcaccgtg ctatgcctta tcgcttattg gcattctgtc ctctcctgag
103561 ggacatttag gccatttcct ttctttttttt ttctttttcc ttattgctgt tataaacaat
103621 gctgccacaa acatccttga aaataaacct ttgagcccat tcataagtat ttcattgggc
103681 tatattggca gataaggaat tgctggggca aaggataggt acattttata tgagcccttt
103741 taagactttt tatacatttt gggaagtgtg tcttctagcc tcatccttct gaagctggta
103801 aaagggcttt agagtcgtgg taacctgggt tcatactcct actccaccac tttctncatt
103861 ttgtgatcct ggccaggtca cataacacag agccttagtc ttctcgtctg ctaaatggga
103921 tgggtggaga tgaaagtngc ctcaccagac tgtgatgagg attcagtnga ctttgtgggc
103981 acgaacagtt ttgtgattta tgttttgggg tgtgtctgga gtagcaagtg ttccagacaa
104041 tgcttatgat cattgtgatt attcagtgtc ccctagttct ttcagtgtgt gggggatgtt
104101 tgagaaactt cctgggatga agagccagtc ctttcccagg tcagtggaaa gccaggtacc
104161 ttaggatccc aatggttggg cggttctgag tcacactgtg tttcacagac tcttctgtct
104221 gaaggatgtt tgtttggctt tgatagggat ggtgttacct ggggtggttg gtgggttaag
104281 taggtctgct gtctggggct caagtcttca gagagccatc tgcccctgga gacatcccac
104341 atcccacagg gntcccctgg agacactctg acatttgcca caaacaatca tgcttggcct
104401 gctctcatat gcatagagtg gatattgcan gcctctgttt nagagtgtgt gctacagcgc
104461 acggagaagg ggactggtga gtgtactctt tttgtggaga aaagtganat gctgtggggg
104521 tgggaggaag cccctgcctc tgaccccatg catttgcctc ccctggactc agcccatcca
104581 tgcttactga gtgtctactc tctgaaaggc acttcaagag tatttcaatc cccagatcca
```

```
104641 ccatatggat ggaggaacca agactcaatt cagctaaatt taaactcaca cctatagact
104701 ccagagcctg tgttagccca tttgcattgc tataaaggaa tacctgaggc tgagtaattt
104761 ataaagaaaa gaggcttatt tggctcatgg ttctgcaagt tgcataagta tggccctagc
104821 atctgcttcc ggtgaggcct caggaagctt ccaatcatgg tagaaggtga agggggagcc
104881 agncatatct catggtgaga gatggagcaa gagatgggga ggaggtgcca ggctcctata
104941 aacaaccagc tgtccgtgaa ctgagagcaa gaactccctc attcattacc aagcggatgg
105001 tgctaagcca ttcataaggc atccccaccc ctatgatcta acccctccaa ccaggcccca
105061 cctccaacat tgggggtcac atttcagtat gagatttgga ggggacacac atccaaactc
105121 tgtgagagcc cttagtcatt aaactgcaag ccctttttaca gatgataaag ccaaggctca
105181 gagatgccca gttgctcgtt ggcagtccat ggatgggatt caaagcccac agttcctgat
105241 gacaagcttt gtgttggttc cactcccagc atctgcctct ccaaatcaca aggccccatt
105301 ctcagttaca gcatcactgg acaagttttc agccaaactg acatatgcct gaaagcaaaa
105361 ctctgtcccc tttctcccca gtccttgaag tcatctttct gggtgtcttc cttcctttcc
105421 gtaccttgaa tatccagatc tgcctctgga gtgcagggaa ctgctctgga ggcaagacac
105481 tggcagagct aaccaccata ttggtttgca gatttccctg gacacccagc acaaccacag
105541 cactgcctct taggagttga gctgtgtgaa tgtgccaagg tcctgaactg ggagtcaaga
105601 aggctggctc ctttccgcac tcacctggaa ggctgggcat cccgggatgt tcactgcnta
105661 cgtccgagcc ntcagtgtcc ccttctgtga tccatgaaat ctctgtcatt ctgtgtaacc
105721 ctggggatcc tagaaaagtg ctcaaggagg actgaagatg gagaagatga tgccgagagg
105781 ggctggtttg ttacagaggt cccgcctgga accttgctcc ttacctggag gaatgttcac
105841 tccttgacct agtggccaca gaccaagcct cccgcatgtg gatccccgcc agcctcagag
105901 ccctgccctt gctgagtcat gaccttgctc taggctgaat gcccacccat acctcagccc
105961 agccncagca ctagccgtgc gtccagaccg acccaggctc aggctgtaga tgcaggatca
106021 ggatgaggat gcatatcttt ctgccctcgg acacaggctg agccagctct ttctttaacc
106081 cctcacctgt ctgattgaaa caatcccaaa tctatcttct cactttcttt ttttgccttg
106141 tattcttgga tcctttttc ctcttctttc tctcactgaa gcgccctttc tctctctcac
106201 tgaagcatag ggtagggtgc gagaagcagg gaagttggca gagagataag attcatcaat
106261 atttaatttt tatggaaatc atgtcctaga aatccccaag gggctgaaaa ttgtactgtg
106321 ttttcagaat ccagtgatgt tgctggagcg gtgatgttgt aaataaaacc acattactgt
106381 ctgcagctct cctgtcgctc tgcaaacacc cggaaacttg acagtttaat ccactcaagg
106441 aagcaaaaag gttcgggtca ctgctggggg cagcccattc tccagtcctg ggatataaga
106501 ttgtggggca tcaacgtcag tggggctgtt actgctggga agggagacgg agccagcgtg
106561 ccttgagtag atttacccga tgtgctgcct gtcttgattg aatggtacac ctgcgatcag
106621 agcatgtcat cagataggtt agtacacaaa actgtaaagc atgctgaggg aatagcatgt
106681 ggtggtgatg gtgggaaggg tttgcaactt gaaaaggggg tggccaggaa agcccccaca
106741 gagaaggtga cttgaagaaa gtgagggaga gagctatgag ggtatctggg tgaagggcat
106801 tcctggcagg gggaacagag aagtgcaaag gccctgaggt gggatcatga gtggagaagt
106861 cagggaacag caaggaaacc actgcattca tcaacttggc tgctatgaga gcgtgccaca
106921 gactgggcag tgtaaacaac agacatttat tttctcattc tggaagctga aagtctgaga
106981 tcaaggtctc agcagggttg gtttcttccg aggcctcccc acttggcttg cagatggaag
107041 ccttcttact gtgtccttgt gtgcttgtcc cttggtctgt gtgttggctg tatcctaacc
107101 tcctcttctt gtaaggacct ttgtcgtatt agattagggc ctaccctgat ggcctcattt
107161 gaacttaatt atctctgtaa tcccagcact ttgggaggct gaggcgggca gatcatctga
107221 ggtcaggagt tcaagaccag actggccaac gtggtgaaac cccatctcta ctaaaaatac
107281 aaaaagtagc caggcatggt ggtggctacc tgtaatcccg gctattcagg aggctgaggt
107341 aggacaatcg cttgaacccg ggaggcagag gttgcagtga gccaagatcc tgccacagca
107401 ctccagcctg tgcaacagag tgagactctg tctcaaaaag gagaagaaaa aaaaaagatc
107461 ctacatccaa ataaggtccc attctaaggc cctggggtta ggacttcaac atatgaattt
107521 gggggacaca gttcagccca tagcagccag catggacaga ggtacctgag acacagatgg
107581 gccgccgtgt gccgtggaca tccgggctgc ttgtttctgc tgctccctgt gatgaaggtg
107641 ttggtgtgga atgaggtggg atgagggttt tgtgatagag ggtggatgaa gctgtagagg
107701 ccggaggtgg caattcttga agttgccttt catgaattca catgaccggg gaaacttgct
107761 tctggaaaag ccagcagtgt tgagattgag ggtcaggccc cagctctcgc tttccataga
107821 agagtggtgt aggggccgtg aggatgggtc tagttggacg tactacggag gctcaatagc
107881 ctatcatgca ctgactcaca gcgcaggtgc ctccttggct ttgaaaagga cgaggagagt
107941 cgggagaggc tttccttggg ggctgcttgg gcacctagga gagcatgcgg cctgtactta
108001 taagaacagc ctgacagtgg ggggcaacct ccaacagcat ttcccctgac tccctccaaa
108061 gatacctgcc ctcccgccaa tgccccaggc cctgcgtcat cttcgcttgc atgggacacc
108121 agcctgttgt cttttatgaa tgcccaaatc ctcaacttta cctagccatg ctcaaaaaat
108181 gctattgatt ttctttttct tatttattta tgagattttt gctgtgagca aaaaataaaa
```

```
108241 aggtttgtgc agtgttcccc ttagcagtga gaagttttct ccacccactg cctccctccc
108301 tggcacacac actcacagat tactctctca tctctctacg ctccaaaagt cctagcatct
108361 cccgactgta ggatgcagag agggaagaga tgaaaagggg ctagtgcctg gggcagagtg
108421 aggactctcc catacatgtg ggagaggtgg gtggatacat ttctgagcaa cacacagctg
108481 atgcccagag agttagggag gtcgagaatg acctcttcct ccttggaagc atgccaggcc
108541 cggtgctggg cactttggac ctgtctcatt cagccctcac cttaaaccta caaggcagat
108601 tttattactt ttttcagtga tgaaattcaa agaagttagg caccttgctc aagggtgcct
108661 agcaagcgag ctagaattca ctttcacacc ttcaggatgc cagctctctt cagtgtgtgg
108721 tgcagcctcc ccaaagggga acaaggaccc acttaagaga ctgctgggag ctgggctggc
108781 ccacagagtg agacgactcc tctctcctac ccctgacagg gccccctcc attttgaaga
108841 atcctccttg ggctgagcat cttgggtggg aacaaagtct gttcttctcc acccttcca
108901 tctttggaaa gatgactgta tgagaatctc tgcaccctgc agtgggacat ctggcatgag
108961 agttggtttt agtctctttc cagggaggtg gctggccaag gaagaccaga gggaatcgaa
109021 tctcagtcct ctctcagggc ttgaggtctg ttcattagtg gtgtgacacg tggatccttg
109081 gggatgccct aagtcagctg atctgccccg ctctgtgcca tgcagacatc cactcatatg
109141 gatgcccctg cccagagtgc catttctatc tctggcactc ctgacaaatg ccttggaatc
109201 tcaaaaacat gattccagcc tctgcccctt gctttctgca cgtcgctcat ccctcagtca
109261 tattgctgct catactgttg acttgtcaag gaaccaacca agtagggctg tgcttataag
109321 aacatgggct acttgagctg cttgaagctc acatcttgtt gatctttgtc tcccctggaa
109381 ttgggcacag agcacagtgg tggaaggatg gtggtcatcc ctgtggattc catacagata
109441 cagctggcaa tacatcgtcc atgttcatcc ncattcctga gccctgggaa gcatgaccct
109501 caaattcact cagtgtgctt ctcttcttat cgttccctgg caggagttcc ccttggccat
109561 tctcaggggc tgggaatgct actgtgctta ccctaccccc cggttcaacc tgcgggatgc
109621 catggacagc tcagntatgt ggccaggacc ctgaggcaca gaggctggca gaatactgtg
109681 aggtctacca gacacctgtg caaggtgggt tctgcatccc cgactggtag tggcatttgg
109741 tctgggggggt ggggagagct tccagggttt ggagatgcca gtcatggcnc aagcatgcag
109801 ttatgaggta tggcatgtgt ctgtgtaaag gtcttggcat cttgatgggt gttggagata
109861 atggggaggg tcagttttcc accctccaca gaggctgaat cctggactca ctttaaaaaa
109921 cactggaccc tttatctaag tctctctgga gatgacaatg gtaagaggat gaacagagag
109981 gggcaggtcc tagagagata gcaacagaaa ggtggtagga ttgggaggcg tgggaagaat
110041 gagatcccag gagctgcagg ggccactngg tgcctccagg acctgggaac cctccttggt
110101 gtgagcatca ggtcntgccc ctgttgacct taggaactga tgaaaggaag agccggggac
110161 gagggatgtt accaccttta tcaagtgcct actgtgaccc agcatggccc tggatgtttt
110221 ggggctttcc cctggtgatt tcatgtgctc cttgtagcag ccctggggat gagacataac
110281 gaatgacttg cctgtcatta gtccagctct ggtttattgt tggcagtacn cntgggtgtg
110341 ttactttgct cagcctagcc tcaatcccca cccacttccc ctattagaat ctggaattat
110401 ctgtgctatg tcaggagcaa gagtttggct gtggccatag agacagaatg ggagtcgagg
110461 gtccataggg tgtctgattc ccatcttact cctgcactgc agtattgcag gcctcattac
110521 ggggctttct cggactggcc acagacctgt gcagctaagg tatatttgga agatctcttc
110581 ccttctttgg gccttggttc ccccatctat taaatgggag tcttcgttca tcagttcctc
110641 taagggagtt tagtggtgaa ttggtgagtc ataatggaag tgagtaaccc cgtgatgact
110701 tttggacttt cagacactcg ttgtacagac aggaggttcc tgcctaacaa atccaaagtg
110761 tttgtggctt tgtcaagctt cccaggagcc gggaacacgt gggcacggca cctcattgag
110821 catgccactg gcttctatac agggagctac tactttgatg gaaccctcta caacaaaggt
110881 aagtcaaagc tacaggggac gatggaaggc agctcccggt gaccaaactg tcaccttgcc
110941 agccaagctt ctcagagcac tagagcagtg catctcaaac ttgagtgtac ataagagtca
111001 cctgtgggtg gagccactgt gtgccttcag gtattgaaga ccagcccgcc tggtggtccc
111061 catccacaac aaagttacgc cattgtatcc acaaacaccc acgatctagg ccactgaggc
111121 acttgcagac accactgata ttgattacag ccaaagaaat tacactgaga ctacactact
111181 ccaccaccca gaaccaaaac ctaagcatgc tacccaaccc acactatagg atacatctac
111241 tagaaaaagt cttttcctat gaaagctgct ccataaaatt ggaagaggtg actgttccac
111301 cagatgtgca gatatcaatg cagtcacaca agaaacatga aaaagcaagg aggccaggcg
111361 cagtggctca cgcctgtaat cctaacactt tgggaggctg aggtgggtgg atcgcctgag
111421 gtcaggagtt tgagaccagc ctgaccaata tggtgaaacc tcatttctac taaaaataca
111481 aaaattagct gggcgcggtg gtaggcgcct gtaatcccag ctactcagga ggctgaggca
111541 ggagaattgc ttgaacctgg gaggcagagg ttgcagtgag tcgagattat gccaccgcac
111601 tccagcctgg gcaacagagt gacactccgt ctcaaaaaaa aaaaaaaaaa aaaaaangga
111661 gcaaggaaac atgacgtctg caaagaaacn acaataattc tccaataaca ngaccccaaa
111721 gaaaaggaaa tgtatgaaat acctgaaaag taatttaaaa taatgatttt aaggaaactc
111781 agcatgatac aagagaatac aaatagacaa ttcaatgaaa ttaggaaaac attttatgat
```

```
111841 ccgaatgaga aattcgatag aaatagatat catacaaaca accaaacaaa tctgttagtt
111901 gaataattaa aatgaatttt taatgaatga aattaatgat ctagtctgtt acaaaagctc
111961 tcaactgtgt ttttaatttt ataccaaaac ctatgggata cagcaaaaga agttctaaga
112021 caaaagttta cagcaataaa tgcctacatc aaaatagtag aaagatttta aataagcaac
112081 ctaatgacgt acctcaagga actagaaaag caagaacaag ccaatccaaa agtactggag
112141 ggaaagaaat gatgaagatc agagcagaaa taaatgataa aattcaacat ccctttaggg
112201 caaaaacaat caacaaatta ggtatagagg gaacgtacct caccacaatg aaggccatat
112261 gtgaaaaacc cacagctagt atcatactaa natgaagaaa gtgttgaaaa ccttttctct
112321 aagaactgaa acaagacaag gatgcccact ttcaccatgt ctgttcagcc tagtaatgga
112381 agtcatatgc agcaattagg caagaaaaag aaacaaaggg catccaaatt gggaaggagg
112441 aagtccactt gtccctgttt gcagatggca tgatcttaca tatagaaatg cctaaaggct
112501 tcaccaagaa acccttagaa ccaataaatg aattcagtaa agttacagga tacaaaataa
112561 acatgncaaa aatcagtagc atttccatat accaatagtg aactacccga aaaagaaatg
112621 aagaaagcgg taccatttaa atagctatga aaaaatacct aggaataaat ttaataaaag
112681 agatgaaaga tctctgcaaa gataactata aaacacttat gaaattgtag aggacacaca
112741 aaaaaatgga aagacatccc atatttatgg attggaagaa ttaatattgg gaaaatgacc
112801 atgctaccaa aagcaatcaa cagatccaat acaatcccta tcaaaatacc aatgacattc
112861 ttcacagaaa cagaaaaaaa caattctaaa atttgtatgg aaccacaaaa gaccctgaat
112921 agccaaggca attctgagca aaaagaacaa agctggaggt atcacactac tgacttaaaa
112981 atatgttaca aagctttagt aacaaaaaac agcatggtac tgctacaaaa acagatgcat
113041 agaccaatgg aacaaaatag agaacccaga anataaatcc atgcatttac agccaactca
113101 tttttgacaa agatgccaag aacatacatt tgggaaagga cagtcttttc aataaatggt
113161 gttgggaaga ctggataacc atatgcagaa gactgnaggc tgtacaaatg gtgttgggaa
113221 gactggataa ccatatgcag aaganctgaa gatatacccc tatctctctc cttatgcaaa
113281 aatcaactca aaatcaagac ttaaatgtaa gacccaaatc tattaaactg ctagaagaaa
113341 acggggaata tttcaggaca ttggtctggg caaagatgtt tttgcttttg agataggacc
113401 tcaagagcac agacaacaaa agcaaaatta gacaagtggg attatgtcaa agtgaaaaac
113461 ttctgcacaa ccaaggaaac aatcaacaga gtgaagagac agcctgcaga atgggagaaa
113521 atattggcaa actattcatc caacaaggga ttaataacca aagtatataa ggaactcaac
113581 aacaaaaacc caaaagaatc tgatttaaaa atggacagat gatatgaata gacatttatc
113641 aaaagaagac atacaaatgg tcaacaagta tatgaaaaca tgctcagtat cactaattat
113701 cagggaaatg caaatcaaaa ccacactgag atatcatctc gccccagtta gagtggctac
113761 tatcaaaaag acaaaaaata acaagtgttg gagaggatgt ggagaaaagg gaactcttat
113821 actctattgg tgggaatgta aactagtaca gctcttacgg aaaatagtat ggaggctcct
113881 caaaaaaaag tagaattgtc atatatatga tccagcaatc ccactgctgg gtatatattc
113941 aagggaaagg aaatgagtat gttgaagaga tacctgtact ctcatgctta ttacagcacc
114001 atacacaata gccaaggtat ggaatcaacc ttagtatcta tcaataggtg aatttttaaa
114061 atgtggtaca tatacacaat ggctagttag ccgtaaaaaa aaaaaaaaaa aaaagaatta
114121 aatgctgtaa ttcacggcca catggatgag cctaagggac attatgttaa gtgaaataaa
114181 ccaggcacag aaagatgaat accacatgct ctcattcata tgtcaaagct taaaaagttg
114241 atctcactga tgtggagagt agaatagtgg tcactagagg ctgggaaggg taggagggag
114301 ggcaggatag ggagatgttg gttaaaggat acaaaattac agctagatat gaggaataag
114361 ttctagtgtt ttatagcact gtagggtgac tacagttgac aataattgat tgtatgtttt
114421 caagtagcca gaacagagga ttttgaatgt ttccagctca aagaaatgat aaatgtttga
114481 gacgatggat atcctaatta ctttgatttg attattaaac attgtataca tgcattgaaa
114541 tatcacattg caccccataa agaagatgta cacttatcat gcgtcagttt aaaataataa
114601 taaatatatt tatatttatt attattttat tttactttca gttctgggat gcatgtgcag
114661 aatgtgcagg tttggtacat aggtaataca tgtgccaaag gtggtatgct gcacctacca
114721 acccatcgtc taggttgtaa gcccagtatg ccttagggat ttgtcctaat gctctccctt
114781 cccttgtccc ccacccccaa acaggcccct gtgtgtgata ttccctccc ctgtgtccat
114841 gtgttctcat tgttcacctc ccacttatga gtgagaacat gtggtgtttg gttttctgtt
114901 gctgtgttag tttgctgaga atgatggctt ccagcttcat gcatgttcct gcaaaggaca
114961 tgaactcatt ctttttttaat aaaaatattt ttaagtaaaa aagagaatca cttggtcctg
115021 gcccacaccc ctgacagtct gattcaggta gtccgaggtg gggcctgaga attttcattt
115081 ctaacaagct cccaggtgac cctgatgaag gcagcccgag gaccccactt agagcggaac
115141 ttcatgagat cgtgcctatt ctggattcaa agagaaagac tagcagcttg aattttctct
115201 ctgtaaacat ttcttgaatt ttccttaatt tttagaaccc tcaataatta ggggtgaaac
115261 tgatttaatc tgctcattcc ttttttgagg caagaactag ttcatcaaaa tataataaaa
115321 aatgtccaaa aatcttttaa gagttttgat ttgtaatctt tcccttgtag aaataagaga
115381 aattaagtta aatggctgaa gtctgtgttt tgtttaagaa tgaaaaacct cagacaagtc
```

```
115441 cattggcatc aaatttggca aaaatgtatt aaaatgtatt tctctgttgt caagcatttt
115501 ctctggattt ctttctttcc ttttttcttt tcttttcttt tctttttttt tgagatagag
115561 tctcactttc actctgtcng cccaggatgg agtgcaatgg cacaatctca gctcactgca
115621 acctccgcct cttgggttca agcgattctc ctgtnctcag cctcccgagt agctagaaat
115681 acaggcacct gccaccacac ccagctaatt tttgtatttt agtagagaca gggaggttta
115741 ccatgttggc caggctagtc tcaaactcct gacctcaatt gatctgcctg cctcaccctc
115801 ctaaagtgct gggattatag gagtgaacca ccatgcctag cccattttct ctggatttct
115861 taaccagagt ttggtgtagg aaagttgata ctgtcagtaa catcctagag aagcagaaac
115921 ttcccaagct tgggattggg ctctggaatc acttataaca atcttggttc tggggaaaag
115981 ctatagttgt ccatataacc cagccttgta ctccctggga acctcgagtg ttacaggcat
116041 cttcaggtga gggaggaagt ggccacatga gcacatggcc ctgtccactc tggcttagtc
116101 ccctaggaat cacccactgt gcccaggctg cagttaccca ccttgttcat ctccaaggcc
116161 cttaccttat tcaagcagct ggctgttttg gtctacatat ggtaangcgg cccaatgact
116221 gatattgcca gctatagagg ttgggtcgac actgcctcag aaatgcttta gagatacctc
116281 acacacatct ttgagcctta caagaccatt agatngtggc cagtggcctc agagcactga
116341 cagagtgatc acacacacac acacacacac gcacaattca caaggcatct ccaatgccca
116401 accaccaaat ctattgtggt aggtcgaatg tggtctgagc tgcaaggcag aatagctgtt
116461 gttggaagag gcggaggcag tatggaaggc accccgggtc tcagggttgt taaagactag
116521 atctcaagtt tattcattcc agtttgactc ttcctttcat agcattttcc agctgtttga
116581 cagaatgaat caaagcgagg ccttttggta tttggcccat ggcagagata agtttgaagc
116641 ttgttgagtt tcagtgggta aacccggact tccagattca aaagagactt gcattttcca
116701 ggcatcaaag cgtccctcag tgctcactgc agatacaaat gctttccagc aattcctgca
116761 gaggggcagg tggtaggact cattttgttt ccaagagccc aagataagca catgagcact
116821 tacggaacat gtctcagggc tgggagcatg ggctacattg ggtgtggcca ggagactagt
116881 ttcaggagac ctcttcccag gaagtcttct aggacatccc actatttggg atccctgctc
116941 tttgtttcca taagccccta tagcctgcac ttaggctatt tcctctacta gaacataagc
117001 ttaaagacaa ggtctgagtc ttaaccctct gtccccaaaa taaagtctaa catagtgagc
117061 acataataac cttcattgat aaatgtgtga ctctggatga atgggcggag tctggccttc
117121 tctgccagta gtcagtcatt caggttctga gtgcccagta ctatagcaag ggaccaagga
117181 aagagagggc ccccgatggg ctgatcaatg ggaacaagtc tccattcata gaaattgggc
117241 cctgggtcct cagggccagg ctcaagcact gtggatgagg ccttgaccag acctgctctg
117301 aggcaaggct gggccctgtc atagaaccat ggcatcaggt cagagggtgg atctatacct
117361 gctcacagcc attgaatctg taaatcagga tcctgccctg actgtgggga ggtgagagga
117421 ggctgggggt ctcacagaga cacacggtgg catgtggaga gagccctggc gctgttttca
117481 cagcactgtg tgatcttggg caagtcccat gctcactctg tgccttagtc tcttcattca
117541 gctatgtttg cagctatggt taaatcaaag gttgtttgta atgcttgtgt aaaattatct
117601 ctatgaagat gcccaaaaca tatgcgtaca tctgcaatga cgggtcttct gccctctgac
117661 tcctggaggt cttcagggaa tacctcatct catttctctt gcagatgcca tctttcccca
117721 ctgttagata actcctgctg tcactttccc ttggacaggg tcactcctgt ggaggccgtt
117781 cctatcacca tccataggtc ctctcagtgt cctctgtgtc ttccatgggc cctctcttat
117841 gcccctgatg ccagctttac ccaatctgtc tgctgctatg gtagggtgcc ccatggacac
117901 catcttccac agagaccctc tcatttttcc ctgcagggtt caagggcgaa aaggaccact
117961 ggcggagccg acgcaccatc tgtgtcaaaa cccacgagag tggcaggagg gagattgaga
118021 tgtttgattc agccatcctg ctaatccgga acccatacag gtccctggtg gcagaattca
118081 acagaaaatg tgccgggcac ctgggnatat gcagctgacc gcaactggaa gagcaaaggt
118141 aatcaaggac cttgcggtgg gggtgggagg cttgtcagta caggtaggtt gctcatcagg
118201 atgcaggatc aatttacaca ggtaggcact gcaggatgca ggatcagtat acacaggtag
118261 gcactcaaac cccatcctgc tagggactta gtgctgctgt gcctgggctt gagttcacct
118321 cctccccttg ccccccatgc ctgctgaggn tccatacgcc aaggcatttt acttagatgc
118381 cagcttgatt accaagaatc ttctctgcct ccatgagtgc atagtggggt gatatgcacc
118441 cctttccatc tctgcttctg cccaggagct catgcagggc tgggagaaga gcacatgggg
118501 tgcacatgga cctgctttgc accttcctct gtgttcagca ccaggttcct cttttataga
118561 atgagacctg caccttgtgg ggcattcagg gagcagtgag atgatgtgcc tgcctggtct
118621 ctggtcagag ctcagcatgt taattccctc ctaagctgcc tcttgctgac tcttcacagt
118681 gtctggtggg gaaatcacat cagccctaca ttccagatga gcccagagaa catggctgca
118741 ggacttggcc ttggtggtga gcagcagagc tgggactcac acccaatgtc ttagtcagct
118801 ctggctgcca taacaaaata ccacaaaact gggggatggg gcaggggggtg gtgcttaagc
118861 agcagacatt tatttctcat agtcttagag gctgggaagt ccaagatcaa agtgctggct
118921 aattccattc ccaggaaggg cctgttttca ggcttggaga cagctgcctt ctcactgtgt
118981 cctcacatgt ccccaacagc tctctgggga ctcttctgat aaaggcacta attccatcac
```

```
119041 aagggcccca ccctcatgac catatctgac tctaatcgcc tcccaaatcc cccatcccta
119101 ataccatgat atggtgggtt aggactctct gtgaatttgg ggggcataca agcatctggg
119161 ccccaacatc cagagtgtct gattctgggt cagattggcc tgttccccat cactatacgg
119221 cgaatgctga ttcttctcga caccttatcc ctcggttccc gctggggaga acacatgagt
119281 ggaaacagga cgaaataggc aaaacccaga ggagctcttt atttattcaa gttacgttgc
119341 cctcccttcc tattcatgtc ttgtgataga atggttttct cctgacagcg agttcacaga
119401 cctaggggat ctggcactgg ggtggatgca gggttgggtc tgggaatttt tttctctccc
119461 tcttcttctc cctagaggat cccttgatcc agctcaagga cctcaaagag aatagcagct
119521 cctcctcctc cctccgtcat cccctgggct cacgggattg acattggccn atgccctgtg
119581 tgagtagtga ctcagcagtg ccctttccat ggaatttcct tcatcatctg agagctggag
119641 aacaagcatg tgtgtgccgg ccatgagatg actgtacagg ggaaggaggc caaggcttcc
119701 ccgagaggag ctgcagctgg cctggtgtgc tccatgggtg gggtggtggg gaatggacag
119761 gtgggtggat gtgggtgact cgttagagcc catggggatg gggtccttca aaaccaagta
119821 gacctgagct ccaaccaact ttccctttct agctgtatga tcttgactga agtcacttaa
119881 actcctgagc cccagttttc tcatctgcaa aatgaggcta aaacaggaca cattgaacaa
119941 ggttgtgagg aagattatat aaaatggcat gcaaaatgct tagcataagg tgcatcaatc
120001 ctactgtccc tcagctgggg gcagatgaac tggacaggtg atgggggga ggtttccaca
120061 tggaggggct tcaaggagga gcacggggag aggagggaga gattgaggtg gaagtggctg
120121 gacagaggag gtgactgatg gagaaaattt gttcgaaaag actcaaacag tgtaagcatg
120181 agtttccaag tgttccgctc acttgatcgg cagacatcca tcaggaattc gttgatccca
120241 tgctggttat ggtgggctca tagtttggag ggagtaaacc acatacaaac acctaggtga
120301 ggctaggcgt ggtggctcac gcatggaacc ccagcacttt gggaagccga ggcgggtgga
120361 tcacgaggtc aggagatcga gaccatcctg gctaacacag tgaaaccccg tctctactaa
120421 aaatacaaaa aattagccgg gcgtaggtgg caggcgcctg tagtcccagc tactcgggag
120481 gctgaggcag gagaatggca tgaacccggg gggtggagct tgcagtgtag ccgagatccc
120541 accactgcac tccagcctgg gcgacagagg gagactctgt ctcaaaaaac aaacaaacaa
120601 acaaacaaaa aaacaaacca caaacaaaac aaacaaacaa acaaaaaanc ccaaacaaac
120661 agacaaacaa aaaaaaagcc acctaagtga gcaggattgt tttcaccagt acaaatagac
120721 tttatttttc tgacatatgt tcagagataa agggtcctcc attggcagag aagctcaggt
120781 gtgtcaccaa gggcctggga tactgtttta tttgtgcttt ttccccttag angggttggc
120841 ttgtcacctc atggtcccga gatgancaca gaaaagagcc angcagtaca gctagtttta
120901 tgtgctccaa cagaaagccc tanaaaagga gaggtcgagg aaagggatta gaaagaacta
120961 aaagcgtttc actttcttna aaaatatttc caaacaaaga attaatttgc cctggaaagg
121021 atgcttacaa agcatttatt ngcacccatt gacatcagtg tgttgttctc tcttgagctg
121081 aaatacggca gggggcggct ggctgtttaa gtggacaaat ctgcccatat ggggtcaaag
121141 agcagagctg gaagtagagg ctggggagaa accactctgc ttctccagtg acccttttcct
121201 gtgccnactg ggatgaagag gggcacaggg aatgagggag cggcccctca cccagaccag
121261 gtatgccttc gggaatctgt cagccgtgcg ttcggaactt gacatcatgt tttctccaga
121321 atttcatttc agccaccagc catctgctag ccccagttct gttagaattt cttccacagc
121381 agcatcccct cctccctgcc tttccttagg acaccaacca gctctctctc actggaggtt
121441 ggccaatagg ccctatgccc caagaggtgg cagcagtagt cacatggtgc caccagcttc
121501 aaaatctcct ttagtttgtg atgtctggtt gtttgaaatg agcccactgg acactccacg
121561 tggttagtac gtctcaagac tattaaggtc acaaaaagca aggcaggact gagaaaccat
121621 cacggaccag aagagagtgg ggagacatga catcgcaacg cggtgtggta ccctggattg
121681 gatcctagag cagaacgagg ccatcagtga aaaaaccagt ggaacttaag taaagtctgg
121741 agtttagtta atagctatgt gtcaatgtca acccatgtct ttgttttgac aaaagtacta
121801 cagtaggctg ggcacggtag atcatgcctg caatcccagc actttgggag gccgaggtgg
121861 gcagatcact tgaggccagg agttcaagac cagcctggcc aacgtggtga aacctcgttt
121921 ctgctaaaaa gacgaaactt agctgagcgt ggtggtacaa gcctgtagtc ccagctattt
121981 gggaggctga ggtacaagaa tcgcttgaac ttgggaggtg gaggttgcag tgagccgaga
122041 tcacaccact gcactccagc ctgggtgata gagcaagact ctgtttccga aaaagtacaa
122101 ttgtaataaa agaggttaac aacggggaaa accagtgaag ggtacatgag ccatctcggt
122161 tctctttgca acatgtctgt aaatgtaaaa ttcttccaaa atgaaaagtt ntattaaagt
122221 ggacccacct cctctcttat caatgctatc agcttgaggt gtccagtagc ttaatgtaga
122281 agatgacttg caagttcaag acctttgatg agtgacttat cggaaaattc ataaaaatgg
122341 ggtaaagtcg aggtgctttc tctcctaagc acctgtgtct actggctggt gcaccccagg
122401 taggcaggag gagcaaagca gggaccactt ttgccatcct cttgcaccag ggctttcttg
122461 ctgccccagt acccgtgcac cttccagtgg atggctgatc ccacaggctc tgctctaacc
122521 ccaccaactt ctgcaatctg tggtccctca atgctttctg tccctcagac ttgcccagct
122581 gctgcccctg tgccagtaga gggggtgatg tggggntcag gacgttataa acccaaatct
```

```
122641 aanccaccct tattccagnc acctgctata tcacacccca canccagaac tggttagagc
122701 tggaagaatc atcatagcta tcatttcttg aantataaac cctatgccag aaactncttc
122761 actagaaata aaatactttc cccnattttg cagattaaaa aactacatct gggaaaatga
122821 tgtcattttc ccaaactaaa aaagcacgac tggccccaaa tcactctcgt cttattcccc
122881 tgccttcctt aaagaaaggc tcttcaggag caactagaaa acctgcccat tttacagaag
122941 ggcaaaacag gactcagaga ggtaaggttt gcataagacc acatagccta ttcacctcta
123001 gccagaaaag gaactcaggc ttcctcactg tgctctcttt gccacctgtg aattactgaa
123061 gctttctggg taccaatggc ccatgcctag gaagtctagt tgcctctaga ccagaccagt
123121 gatccgggag gctcctccct tcccagtcag gtacagatta cctattccac ttctccctgc
123181 cgccctccca cccctgacac ccctgtgtct gcaggcacag ctcagcaggg ggtacaatta
123241 ccatctgtgt cactggcatc tttacagagg catatttaag tcgctgcagc actcacagga
123301 gaaagcaagt aaatacacag cccagcaaag tgccgaaccc agcctcagat ctgcctgcat
123361 ggagcaggca tcgaatactt ctcagcacta tgcggggaaa aagcaaagca aagaaagaag
123421 aaactgcatc tccactttgg agatgttgcc aaagtttctc tccatctctg aatgatgctt
123481 tttcagatga ggcagtgtcc agaggagcaa aaggcaacct tcacaggtga gacagtcaag
123541 cccgtgtcac cttgtgggcc aacatcttgg tggagcatac agccaagctg catgggtaaa
123601 ggagattact gaggtgncct ctgggtgtcg atggagcacc tgcttcctca tcccaccacg
123661 gtccctggca ggggcacgcg gtgcagtgag ccatccgcac tcatcctctg ggtctccctg
123721 gtggccagta gaatccaatg gactggatac agggatcagt ctgtgaccag agcaagggga
123781 agcagcctct tgaattcttg ggaagaaaca tgacgactgt gggaagccnt tcttgggttt
123841 attaaaaata tgtcatgcta ggcacatcat gtttttaaaa acacaattat ttatttaata
123901 aatatttagt aagtatgcct atgtaccaag aattcaactt ggcaccaagg ataaagttct
123961 gaatgtgata gtaagttccc gggccatatt agagcttaaa ttctagcagt gggggctgtg
124021 agggttggga aggagacaac agatcataaa ccaacaaaca cacaaagaga tgatagggca
124081 atgttccatg aagactggaa actggacagt gaggtggatg ctttagccag aatgacaggg
124141 caggctctgg ggcggtggca tgtggaggaa gagaacgtat cacaagcttg gtggctcagt
124201 agaacattgc acatgtggca tttctggatt ttagcaaagc tttggggaaa accccttctt
124261 gtaatattta ctaaaatgtg ttatgtgcgt attccatggc aaatgttgtt ttgcttcaca
124321 ctcaacagac atttctattt ggtccttaca agaactccca taaaggaggc attttctctg
124381 atttgcagat gacagtgttg aggcccagag agattgtgac ttggtcaagg cgagagagat
124441 atgagcccca cgcccggccc tcacccccac gtgggcttgt caccccccatg cctatgacta
124501 gtcaggctgc ctttgtcaac atgacataga agtgtaggat ggctgatgac tcataactgg
124561 ttgaatgacc atttccacgg ctgatgatga ctagatgacc accgtgaagg gagctcatca
124621 tagtggcggc tcaagcgtgg tccacagccc agccttgtca actggtgcca gtggcctgaa
124681 tgggggttca gtggctagtc ggggttcagt ggccagtcac agttcagcct cctctccaac
124741 cacctctgac cttgcaccag ctagtgcaaa gtcactggca gtttctgtga cagcctgtgt
124801 gtttcacact tccctgcctt tgcaaaggat gccccccacc cttgtctgga atggcccctg
124861 cacctggtga cccagatgat gcccacttct cctctaaaag ccagcttaca tgtcacctcc
124921 tccaggaagc cttccctgaa ttcctccaca ctgagggtgc ggagtcatta aggttccaat
124981 gctcgctcta tctatctatc tatctatcta tctatctatc tatctatcta tctatctatc
125041 atcacagcta gttgccatcc cagcagccac ctactaacat agaaacaatt ttngatcaag
125101 tggggatgcg ctctgagatg actggcctat ccccagagga tgaattataa ttagccaaac
125161 ccattcctcc ttggccaggt attggctgag gggtactcac agggttcact tctggccaat
125221 gggccttgcc agaaggagga tctggcaaaa gtttccttat ccagtgaaaa aagaaacttg
125281 tgggaagaag tgtccctttc tttcttgcct tagggtattg tcatttgggg aagtcacgaa
125341 cagcgcttca gttgtcattt tgcagtcatg atggggcggt ccagggagca cagagaggcc
125401 accacagatt ctgacatcat tgagtgactg aatcacccaa ccttggaact gcctacctcc
125461 aggcatcttg ctgtctgaga tcataaaccc tttgcttgac accactttta ctttgctatt
125521 tgttacttga ggctgcaggc atcctgactg atacagcaga gctctctctt tgtggtatgt
125581 tttcactttg gtctgttttc tcgtccagtt cttcacactg gaaactcctg caggggaccg
125641 gttctttttt atcaaagact ctccagtgtt caacacaaaa tctaacacac aatgggtgcc
125701 ttgcttagta aatacatgaa aagatgggtg gctggaagga aggaagaata agctatcaga
125761 tgacgtgaag taaggaggtg atgtaaatac ctaggatcca atagttgagg tctgcaaaga
125821 gaggagcgga tgactcaaga gccaaacaca gagagatggg attgatgtga catcagacct
125881 gtctgattct tagtcccaga ctcctggggg gtgggggat acatttctca gcagtaaatg
125941 gacatatgat ggcagcattg tgggaccaat tgcttttggg acagggatgg tatacaagtt
126001 actatgaaac agtcccaact atgtggagag aagagcntga gggagaagga gttggactgt
126061 gattaggagt gactctgtta tcagtcctcc ctatcacttc ttactggtca ccatcactag
126121 aaagaagggc tttgtcctga cactgaaata ctcctggccg tgttgactcc caagcccttc
126181 tcaattactt cctgggttct ttcatgcgcc tccttcctca acctccctcc ctagagtcag
```

```
126241 tagttgactc tagcttctac ccacacaggg gctgtatggt gttcccctgg tggggtgctt
126301 tgcagggcag gtgcagcgtg acatcgagca cagatggcat ggatacccag cagccttttg
126361 ctttttcttc ttgagtcacc tccttccctg gtggcagcca catcaactct tctgcttgat
126421 tattctgtac caagtgtctg ctgctgcaga tggacacttc tgaatagcag ctgccgggaa
126481 atgtctggct tcccagagga gctgggcttg aattcccctg ggctcaactg ngctgtgagc
126541 cttttgtgat cacccacctg aaagtctcat ctgtcaaatg ggcacatgaa ggcatctata
126601 gacttatcag ttttaagtgg gacaatgggt acgagagggc cagggctggc ttcatgggta
126661 tgagatctgt gaaaggctct gaattctgtg ctcagaaggg acccgtactg gtttaatatc
126721 ctccttttat ctctcgaaat tcttgatagt gttttaanaa gggggctcca tttttatttt
126781 aggcccnttc aaattatgta gctggtcatg gagagggctt tgcaaaccaa acagcanttg
126841 cgagactgca cagtgggttg ctgttataaa tcgtaacgac acacacattc acattctgta
126901 aaggatatat atgtgaangg gggcttttct gcaaggctgg gactctgagg cagcacagaa
126961 ttcgtctctc acttactgta tcctcttcct gggcttaagg atattaaatc caggtgcccc
127021 aagaccttca gagcattctg ccttcatgcg gatggtgcag actctgttct aattctgcac
127081 ttggccagac atagctatgc aaactgcagc gagtctcttc ccgctctggg cgccacctga
127141 ctgacccgcg taaggaggga ctgtgactgg tccccaggca aacgctttcc ctgccacctg
127201 cacctgttgc aagccagctc ctcggnagcc aggccaagca gctctgcccc tagcgggagt
127261 cggaggcatg aaactccctt ttaggaagac ggagtaagag gcaccaccac ctgctcctgc
127321 tgcctctgct gtcctcagct tctgggagca tcttagcagc cagctccggg tngaggacag
127381 ggtccaccgg tgcacatggc agagcagggc agatgctgtg acttggcggc tttgggggaa
127441 cagggtgggg ctcctccctg ggaaaaatct ttaggntttg gatccagcct ttatttaaag
127501 agggggattg tgtatagact tgtgtgactg ttcagccntc tttccacctc ggtgcgtgtg
127561 tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgagagag angagagagc ctgtgggtca
127621 atgcccagta tgcccctctg agagtgtgtc tgttagtaga caccagtgtg tgacattgct
127681 tctgtgggca actatgtcaa ggcgtgggtt tgtcactgtg tgcggtgtgg agcagtatga
127741 taagccggcg gccgaccccc gagtgtgtag acgcgggagc tggtgtcagg gtatttgtag
127801 ggctgcaatt ctgtgtaggt ctgtctcaga ttgtgtgaga gtgtctgtgt tccagcaggt
127861 gcttgtttct gagtgtgaat gtgtgtgaag ctgtgaccgt ctgtctctag ctctgcatgg
127921 gacggtgatc cggtgtgtgt gtgtgtgtgt gtgcgtgtgt ggtgtgtgtg tgtattagag
127981 tgcactctaa actgtgtggc tgtgtgtgta cgtgtgcctg cctgtcacag tggcccagtc
128041 tgcttctggg tgagtggggc agagcccaga gagtgtgtgt gtgagtgtgg gtgtcggtgt
128101 ctctgggaag cagtgattcg ggatgtgtgt gtcaggcagt gtgcggctgt cgctgtgagt
128161 ctgcatggga gagtggcggc gtgctctcct ctgcgcggca gtgccccngt gtgtttgtgg
128221 gtctgtgtct gggtgtgagc gtcatggtgc gtgtgttaga gcccgtgggc cnccggtgaa
128281 aggctgtggc tctgggtgac tggtgtgtgt gtgtgtgtgt gtgtgtatca gagtgggtgg
128341 cggcgtctct gctcggcagt ggcgcgtgtg gccagccccg cgcgcgtngt cgcgagggcc
128401 ggggcagggc gtgnggccca ctccggccga gccgccaccc ctcccccggg ncggcggcag
128461 gtcncgctcc ggcgcctcta gngacccggc ccccgccgcc cggtgtcccc gaaggacgag
128521 agctaaaagg cccagagccc ggaagccggg cgcccgcccc ccccccgccc tcggtccgcc
128581 cccggccctc ctcccccccg ttaagccggg acgccagcag ccccggggan gccaggcggc
128641 ggncgccctn gtgcccgggc gggntgggtc cgcnttcccg cgggcggccg gangacgtgc
128701 gggcgcgggg gcttctgggc tccgggcact gcggggggct gcgggctcgg cgcccgggaa
128761 aggcgggcca tgggcgcggg tgcgggcgcc ccagccggcc gcgatcgcgg ggtgagtcct
128821 gtctctcggc gctccagcag gacccccgcg cgggctgcga gcagggtgtt ccccttgccg
128881 cgggncaaac aagtttgtgc agacgcggtt gggagcgcgg cggggctgca cctgctccgg
128941 ctgcagggcg ggcttgccgg gggncacctt cccgggggnc ccggggcggc tcggccgggg
129001 caggggagag tgagcgggtg cgtgcagggg ttgtgggggg gcggggacgg cgctcggcgc
129061 ggccgggatg gggtgggggt gcgcgaggcg ccgcacgagc cgcgtccccc tccggagtcc
129121 tgagagcccg tccgtcaccc gggagggcgc tgcggttggt cccggggagg gggcgagggc
129181 agggtgtggg gtgcgcacag cttccctcct aggcggcgac gtttacccag aagcagctcc
129241 ctctcgttcc gctaccaaga gaggcttccg gtcagcggag ggtttgctcc gtctcttggt
129301 gaacttgaac agaggcagag gcaaaagcaa aacgtatgta ttttgtcaag aaaattacct
129361 agtgtagagc tttgcgtctt cgtaggtgtg gacggagact cacgactgaa ggttgctaaa
129421 ttgcgttttt cttggctact caggagcgta cgtacctggc tgggtcccct gcctccgggt
129481 aacctcgctg gtggttttcc tgagcatttg tgcgcctggg atgatgcctg ctctgctgat
129541 cgggaatgcg ggtggggaag gggaccgctc ttccttccgc tgagcagtgg gaaggctcat
129601 ataggagttc tagcctcata gccctgcact gggatccagc tgctccccac actggccctg
129661 cccctgcagc tcccaagatg gacagatgca ggactccgct gtacttttct aacatgagat
129721 acccgcatcc ctcttgttgc tggaacagca tgcttaggtt tatggaggca cttggtttat
129781 cccactttgg catcaggagt gggggccttt ctttttttcct ctgatttgcc taggttgtca
```

```
129841 ggcacagaaa gtgagggtgg tggggagtga aagttacagg agatgtaaag ctggcttgcc
129901 ctgcgctgtt tgcaatcaca ccactcctgg tggctgcagg tgatagggag agagctaggg
129961 gaggggacat acgacaaaag gagaatgagg tttgtctctc tcaatcatgc ccccaccccc
130021 acacacttag attggccctc aggagatcct ccgggaaggg gcctcaaccg gctgccagag
130081 ctcagggttt ctaggaggaa gagcacgagc tctcccaggc atgcaatctc aagcacgatg
130141 cctacaggcc gacccgatag cagaccctga ctgcctcatc ttctccgcca gaaggctctc
130201 acctgtggct gcatcctcca ggcctcagca gggccatttc cacagctcct ctgtaaaaat
130261 gccttcttct ggggtgaggg gatccctctc ttcagtgggc attgtgccct atggggtact
130321 gccctgtggc ctgtggcatg tctggttgga agtgaagaga agctgggata aggcagaagg
130381 ccagactcct gtctcttcct cctgtcttcc taaccgagca gaagtggata ttcagtgcca
130441 ctagtgggtc tgctgctgaa gcttgagcct ccaacctgat cagtttggcc agagcactgg
130501 ggaatgagtc acagagctgg ttccttatgg catcagcctg agcaggcgac tcagagcctc
130561 tgaatccaga gcctccaggc cctgatggaa cccctccgag cagggcctct agggaagtgg
130621 tgtttctcat tatagaagct ccaagcttgt actcccatcc agctcagacc cccatcagcc
130681 ttggtaanga ccagctccct gactctttct ctggaggtac aatgaggtca aggccaagga
130741 ctttggggca gctcagtgtt tagaccttca aggccttagg ccttaaaatg caggtgataa
130801 tcatatacac tagcagggcc agagctgggc cctaacatcc agggctgctc atctggggaa
130861 tgagggaatg aatgtggctt tccgctcacc accttctccc tgggcctcct ggtctggcct
130921 tcacattctt cctttaatct ctcctcatca tggctttgac aatcgtgctg acatacggcc
130981 tgaaaaatta tcggaagtgt gccacttgga gaatgtggtc agggaggaac tctgcatatg
131041 ccctgcctcc tggtgtggat gtgagaagtg gatggaagaa tgggctggat tcatttcatc
131101 agctatgaaa tacagtgcac ctgctggtag ctgttaaggc ccctcccctt cacttcgctt
131161 cccttccttt gctgccggaa gcccctggag atgtgagctc ccttctagag agtggctccc
131221 ttgacatgag ggggtcgaga gtattctgag gacaaggatg tgcagcaggc tgtcttggcc
131281 tctctcccat agcccgagtg cccagtggca gcatcaagtt gggcaggtct gactttggtt
131341 gggcactcca ctcacttgtc cacctgtatc caanctcact ccgtggggtt tcaacacctg
131401 tttaccttcc agattctggg atgggcttga gacgaccctn taagctttca gcaccaggtg
131461 gaagaaacac atgaataagt gaacnaaaat aagattctat aaaagagata gcccaggcca
131521 ggcgtggtgg ctcacacctg taattctggt gttttggaag ccaaggtggg cagatcacct
131581 gagtccagga gtttgagacc agcctggcaa acatggcaaa accccatctc tactaaaaat
131641 acaaaaatta gctgggcatg gtggtgtgtg cctgtnaatc ccagctacta gggaggctga
131701 ggcaggaaaa tcgcttgaac ccaggaggcg gaggttgcgg tgagccaaga tcatgccact
131761 acattctagn cttgggtgac agagcgagac tccttcttga aaaantaaat aaaaataaaa
131821 gagataaccc agagataggc tggaaaangg ttgcgactgg ctgtttcaaa agtgagaaag
131881 ngctccaaat caggcaccag gaaaggaaaa antgccggcc ccggcgctgg tgctctgtct
131941 ttctgtgtgg acccagcctc cagcatggtg cttggaagga tctcntgtcc ttggtattgc
132001 acacatgaag accatgtgat atggctggtg atgatatgct ctggaatcag agcgacttag
132061 caatagccgt ttgtatttgt tcaagttaat tggccttctc tgtctcagat tctgcatctg
132121 tatgatgggg acgataatga ttttggcctc acagatttgt gggaagatca ctcattcatt
132181 tgttcatctg atcattcatc caatgcactt gacagttggt gaaagtacct ggaactctaa
132241 tatggtatgt taaatttttt atttatatga accccaacag tgggttaatt gaagaggttt
132301 ccctcctttg tgtggaatgg agttttgacc tattatgttt tatacccttt tagcaacata
132361 ttaaaatttt gaatcttttt tcaagctctg aagttcaaac tctcaagaga tttgcctcat
132421 caaagacagg gatcccaccc catttgcatt tcccagacct tgttccccca aagggcccaa
132481 cagatttttg tttagtgggt ctcttgcttt ttctcagtct ccaagaccca gagttgttag
132541 gcctgtcagt aatggcagca tggccctgag catcgaagga tgtccagtcc agcaggcact
132601 tattttcagg ggcattccct gtgccccacc cagaggtggg cagaggcact gactgtgcct
132661 ttgacaggcc tacaggctgg aaggagaggt agggacatta gcagggaacc ctgactcaag
132721 accacacact acccaggcac agtttgtagc agcagccttg ctgcttagtg cctagcactg
132781 aggagtggtt ctgctccaga gatcagggag gcttcatgga agaggaggca tgggagctga
132841 accttgatgg cctgaagcat ttcagagccg tgagatgngg gcacaagcat ccctggctgg
132901 tggaagggca tgcgtgaggg tgcttgacgc ctctctcgct aaccaggtga tgctctggtg
132961 ggatacaggg cttgcttgtc aatccctggg aagccattac aggctgtggc atcattagct
133021 cctcatatta gaaagatcac tttcttagat ggaaagggga cagtcttttg gagaggggan
133081 tggggtacag aagccaggcg ctatgcctga gcggggtagg ggcaggggca aggggaaagt
133141 cacaggaggg gaatccagga gctgtgagcc cagctggagg ctcctgcatg tactctgccc
133201 gggtcctgaa gctgagaccc cctggctgcc agtcactgag gctgaggctt cgagcttcta
133261 ggacccagat gcccatcacc ttgtctagag agcaacgttc tgggccctat tcttgtcgct
133321 ggggctcctg ccatgcaaag agcaggcagc tccaagtccc aagaggtttg cagcccttgc
133381 tgcagctgcc acagtagctg agatccttct ggggatgtct ggtgtcattt tcccttcagc
```

```
133441 tgcctctgcc tgttctctct gaccgggggt cacggggagg ttgagtcatc tgactgaacc
133501 ccagtggcca ctggctgcac ctgggccagc tccgagttct atcttgcagc ccccagcccc
133561 agggactgcc tcctctcctc tccctgctgc cacccctcag tctctggacc cctagcctgg
133621 ctgagaagtg gccacctgac cagcccaagc cacccatcat tcaggctggg cagttgctgc
133681 tccctcggtc ccagatggca acaaagtaat agacaaaagc tcaggttgtc tgaatatcca
133741 ggtgctctgg gctcctgctc cctccctgag acttccagaa gcccatttgt tctgttactc
133801 tcttctcatg cttgacaggg aactcagaat ctccctcccc aggccctgct cttctgtagg
133861 gtgaccccag gacagggcag tgggtgtgca cctttgtaca gccctggcgt gccccctcta
133921 cccccaataa ggccaagccc caggcaggga tagaacccct ctagcctccc cctgaagcac
133981 tctgcagggt tccaagatgg gaggtgccca caggaagcac accttgggga aaaattctcc
134041 agactttcag aggggagggg ccccaggctg cctcccagtc ccagtgggct ggggcgggaa
134101 cactcacgga caaggcactg tctggaaggc ttggctgggg agacaccatg tgtggcatca
134161 tctctaggag ctttggcccg gcatgacttc aaaaaggtgc tgacagaggc gcactaaact
134221 cctctcaaga ataaatcttg cctcgtgtga aaccggagct gggatgggga gagaaatagg
134281 aagcttcgtg ggcataatgt aggccctggg agcaggtggc ctggtctgag tgctggccct
134341 gagctgtctg gctttaggca gtgtgcatca cctggctgag cttcagagac ctcagtgctc
134401 aaatggggta tgcggggcat ttgcttggtg ggttgtctgg aggaaatgag atggtgcagg
134461 taaagtgcac agcccagttc aacctattca cactgcaaat gcttcataaa tggtggcatt
134521 gacaaagcaa ttgctaacag cagtctcagc atggggatca gctgtgagca agagtgggat
134581 cctgggtgca ctccagggac tgtgggggct cagagctggg gagaggcctc ttgagtctga
134641 cttcaccagt ggcacagcta ctacaggccc gtcctccggc ttttccttgc ttgcctcttt
134701 tgcattcata accaatccat gccacagtct gtagggaaca gagtagcgga ggtttcatgt
134761 ccactcccta attcgatccc ataaagcata tttaccccca tttaatggac aatgagcctg
134821 aggccctgcc ctgtgcaatg ctttgctcga ggtaggttta ctgtcatgga cagcctgctg
134881 gctttcggtt gtagtgggta tagctgatgg cctcccaggc cctatgcaga tgagcagtgg
134941 ctagcattct gcccccgacc ccaggtgttc gccggttgtg ctgtctgact tacctcgtgg
135001 cttggctgtg agcccttgtg tagatgctcc aagtttccca gcccaccccc aggtctcttt
135061 tgggttcatt cacttagcaa acatttacca tcactgccct gctagctgtg tgctgggatc
135121 tgggaacatg gagataaacg aggtgtggtc tgtgccctgg agggggggctg ccagccttga
135181 ggagagacag tgtgatgtga tgttggctat aaagtgtggt ggaagtccag ggcagggtga
135241 caagttcctg caagttcctg atgctttttt ttttttttt tttgagacag agtcttgctc
135301 tgtcaccagg ctggagtgca gtggtgtgat cttggctcac tgcaacctcc gcctcccagg
135361 tttaagcatt tctcctgcct cagcctcctg agtagctggg attacaggtg catgccacca
135421 catccagcta atttttgtat ttttagtaga gacggggttt caccatgttg gccaggatgg
135481 tctccatctc ttgaccttgt gaaccacccg cctcggcctc ccaaggtgct gggattacag
135541 gcatgagcac tatgcccagt cttttgtttc tccctaccag tctacccgca atgagttttc
135601 caggctagga atctgctttg tgattttaaa agttgggagt gcagcctgct tcatagaaga
135661 cctgggccat ggaaatctgg cctgcacgtg gctgtctgtt gtgtccacac cagcacccac
135721 ctccccagac cagggaaacc ccttctggga agggggagcg ccagaaaata ctttggagga
135781 acttgggacc ctgtgtgaga tgtattgaat cctgattcat cagctctgac cactcctcac
135841 cccagcccta cttgtattgt atatccaaat cctatctaga aagtctatac ggaattcacc
135901 agtataccct gccttcaaaa ttccgaattg ttgaactcct gcctgccttt ctgctccatc
135961 tcatcagaaa acttttcaca gcaggagtgc taccctcttc ccttcagtta tacaggatta
136021 atgtgctccc taatttgtaa ccggagcccc tttgtgagca gacctggaga cccctcctca
136081 tagaattaca tcacagaaag gatgacataa agctcagccc aggcactctt gttaactcca
136141 tgcgtctgaa agccctcagc tcncgttaag ctgtgttcct ggaccgcctg ggggcctgtg
136201 ncctatgcac tgctccatct ctcccatgtt tcaggcttca tccatggctc tgggtaagtg
136261 gaatttgaga tttcactgcc ctgactccat aggagcaggt ttctgatgtc aggatttgcg
136321 tatcaattta tctgtggtct cgttcatttt taagatgtat tcataaacaa tgatcactga
136381 gcatccacac tcccaggcct catgctgggg ctggggttag gaaaatgaat gaggcatggc
136441 ctctacccct aaggagatta cagactttgg agggtaaccg acaagtagat ggacagttct
136501 gatcaacccc gggatggtga gtgctgggct gagggtcagc aggggctgtg gaaagactga
136561 ggaatcttca gggaagcttt ctctgaggaa caatatctgg cctgagcctt agaggataca
136621 cagggatttg ataagtgaag aggaaggaaa cagcataaat aaagggtagc ttgtgcaaag
136681 gcaccgaggc agatgtgctg tggttccggt tcccggtggc tctgctggaa tgtggagggt
136741 gtgtgtgtgt gtgtgtgcgt gtgtgtgcgt gcatgcatgc gtgtgcatgt gagatgggga
136801 agccaaangg aagagacctg gcaagagatg aggctggatg ggctggatca tgaaggggcc
136861 cttgtgtgtc atgctaagga gcttnagagt ttatccagta accacagcgg gctattgaac
136921 ggggttttaa gcagggacgc gccatgatca gatgtgcatg ttaggaggat caccctggca
136981 gccttgtgga agatggattg gagggtccaa agctggaggc agagagatca gtcaggattt
```

```
137041 cttgggattt tctctgtggt tttacaaatc tgatgaggtt gtctggggtg ggcctggcag
137101 acatatcagc ctagaaaata gaagctctgg agaaccgtct gcaatttccc aacccagagt
137161 ttaattccac cttcatttgc tgattactga gtctgctacc tccgccccag cctaaaggac
137221 cagccgaccc agatttccag atctctgctc tccccgaggg cctcggaacc tgncgaccct
137281 cgccatttac tcagagaggg tcatgcctat ctggggtctt tgtccgaagc ctccaagctt
137341 tctgggggcc tggaatgcca gcccaaacat tgtccttcct ctcacacccg ctgtctgtcc
137401 ctggtgcaca gagtagccat tgagtggctg cacaggcctg gcgggggggcc cggaccaagt
137461 tagttacggg cagtggctta gtcacgcttc taggggcctt tttttctggg ataagcctgt
137521 ccttgtgcta agggctttgn tcacgcaaca gcccaggtcg tggcagctgc aaaaccctct
137581 cccaacccca acagcacact tcagaggtgc cgccaatgag aaccgaaacc cagagtgaca
137641 gctgagtcct ggggagtgga gagacccatg gaaggcagat cagagagcct tctgccttct
137701 cttctctggg tgctcagcct ctgtttgcag gtgcacggct caggcgctac cctggtcctt
137761 tgattctggc ctctggagtc caggaggcct gggaaggcta cacaagcccc tccctccct
137821 gggccccatc ctgtgtgaaa gccaatgacc agcctgtgca gaagctcctt ccaacccagg
137881 ctcacagttc cagtgcaccc ctgggagtca gctgattgca tgcatatatc aagcatctgc
137941 aacatagtcc tgcctgggct aggtacattt atatgtggta gtgtctcatt gcaggctggg
138001 cncatgcagt cattgagagt ccaggctccg aacacagact cttcaaaacc ttggctctcc
138061 tgtttaccag ctgtgtggct tgggaaaaac tagctaatat gccttctttt gccagtttcc
138121 tcatctgtgt aacagnggat atgatatctc taggttgttg gattggtttc agggttaagt
138181 gagataatat gtaaagtgtt tagctgagtg cttgacacac aggaagnggc tgaggaanga
138241 ngcccctgct gctgtntcct cctccccctt anttgatatt gctgtcatca ctgactcctc
138301 attattcctn caaggggaga gctgttgtcc ccattttaca gatggggaag ctgaggccca
138361 gncaaggtta agcaacctac ccagtgtcac acagctggcc agtaacaaag ctgggattta
138421 aacctggctt tgtccagtgc tcctgcaaca cagctggtcc ttggataaag caagcacagg
138481 gtgagggngt gtcccagcct gggagtgcca ggtagtggac ccgcctatta catctcggtg
138541 ctctttctcc accttccaga tttctgcgcc aggagatgag gggcggtaga gcncctggna
138601 atggagatgt ccttgacgcc tgggcagagg ctgcagctgc aggaccctgt ggccactgga
138661 gataagtaat ggtgccnatt tgaacaccta ctggaaacgg ggcaggaaca gtgagtgacc
138721 ccaggcgagc acaggcaggt gccaggagcc aggatgcaag gatgacgcct ccggaggccc
138781 tggcctcact cccacctggg cgctaggagc catcccgggg ctccagccag gagccctgct
138841 gcccaggggc antggccaaa cctttcttcc gactccagaa gtttctccgc cgaacacagt
138901 tcctgctgtt ncttcctcan cggctgccta cctgatgacc ggcagcctgc tgctgctgca
138961 gcgggtccgc gtnggctctc ccacagggcc cccgggcacc cggccccctg cagaccttgc
139021 cagtggccgc cgtggcgctg ggcgtgggct tgctggacag cagagccctg cacgaccctc
139081 gagtcagccc agagctgctg ctgggtgtgg acatgctgca gagccccctg acccggcncc
139141 cggcccggcc cccgctggct ccggagccgc aactcggagc tgcgtcagtt gcgtcgccgc
139201 tggttccacc acttcatgag tgactcccag ggaccgcccg ccctgggccc cgaggctgcc
139261 aggcccgcca tccacagccg aggtaggcgc tcagctgcat ttgggggagc tgttcccagg
139321 acccccccatt cagggtcaca ggtttggtgt ccccttttctc tctgcaggcc tgtggccttc
139381 accgctagat ggttctttcc ttctgctctg caggacagga aggggcctgc gatgcgaagt
139441 ccttcagggt tttgctcact caccagctgg agttccacat ggctcaaggc tgagatgttg
139501 tgagcaggtc acttagcgct ccggctttgg attcagacag acattggctg gaatcctggc
139561 caacaatttt tttttttaat ctcagagaat ctagtaggac aagtttcatt gaatatatga
139621 aaataggttg ggcgcagtgg ctcatgcctg taatcccagc actttgggag accgaggcgg
139681 gcagatcact tgaggtcagg agttcaagac cagcctggcc aacatggtga aagcccatct
139741 ctgctaaaaa tacaaaaatt nagccgggtg tggtggcgca tacctgtaat cccagctgct
139801 cgagaggctg aggtaccaga atcgctggaa tctgggaagc agaggttgcc gtgagcagag
139861 atcgggccac tgcactccag cctgggaagg agactctgtc tcaaaaaaaa gaaaaaaaaa
139921 aaattagacg tgtcacttaa tgtcaccagg tctgcctgaa atggagctaa agacgccatt
139981 cctgggctat tgtgacaagc aaatgtgata acacagagga atgggtcaca aagtggggtc
140041 cctgaccagc agncatcagc tccgcnctgg gatcttgtca caagtgcaaa ttctcagatt
140101 ctcccggagt tgcctagtca ggaactctgg ggtaggggcc agcaggcttt gtatttaacg
140161 ctgtctccag gtgagtctga tgcatgctga agctgagaac tcccaggaca gaggccccgg
140221 tatattattt ggcactctaa ctggcagcta ttatgacttc ataaaagcag ctaatgcata
140281 tgggatttcc tatgcacctg taagtctgct gtttacaggt attattatta tatcgcagtt
140341 ttacaggtaa agaaaccaag gcatggagaa gttgagtcaa ttgccaaggt tattctctta
140401 gtgtgggttc cctagaagca aactctgaaa ccaggattca cgtgcatcca gtatatttgg
140461 gatgtgatcc cagggaacac tagtgggggc gcgggaagtg ggacagggaa gggaaggcag
140521 cncagtgaag ggtgtgttat caagcaggtt acaaatgggc aaccagactt catccggctg
140581 gaggctcagt accagagcag aatacacatc tcaaaggacc cgctggaagt ggcaggcctg
```

```
140641 ggagacatgg aagggacacg gcagggtcta ccatcgtcac actgctggat gccagcgtgg
140701 ggacagtctg gctccgggtt ggagctgttt atgctgaatt atgcagactc tctctgcagg
140761 gtgcagcaaa tgtgcctggt gcttgcggag ctcccagtaa gcgtggaagt tgttgttgga
140821 gggtgactga gctcagtcag cttctcagca tccctgtcac cacctcactg ggccctgcac
140881 ccgaagtcag aagaggaact gctctctgga ctgtaataag tgtggccaga gcacagtgga
140941 ccacctggca gaatataaaa ggagatgagg caggaggagc actggggcct gggttaggga
141001 gggccacgag tgccaggcct aggagtttgg ctttattttg atcatgacga gaaggttctg
141061 tggaagagaa cggagcccaa gctgtcctta ctttaggaga cntgactggt agctcagtca
141121 aataaagact ggagggctgt gggttcatgt cgctgtggaa ggaagttcct tcagaaatca
141181 ttcaggccat tgcacttgct gtaggatttc tcagcaaggc tcgtgtgtca gaagggaggg
141241 aggaatgagg agctgatgct tcagctcatt tgacacaggc atgatttctg caaactctcc
141301 gcaacacacc aagagactgg gtctctgtgc aggttttatc agtgaaactt cttntggact
141361 aaagtatact tgaccggcag gagtcaacgt tacttgagag gaagccatgt aaaatgcaca
141421 cgttttaaaa atagacctgt gtattgccac ttattgggca tgtgaccttg ggcatagtgg
141481 gctcagttcc tctcttcatt gccttcattc cacgcttact gatgagccac caaatgactc
141541 ttcacgtgtg cancctcact gtgccctgga ggagctcggt ctggtgatag agtcagatat
141601 gcacccaana ttatttctac aaangcacga ccgaggtctg ctagaggcac gtgcgaagtg
141661 ggctgtggac tcagtgagaa gtgaccttta taactgacca gcagcctccc aaagcgctag
141721 gattacaggc gtgagcaacc tacgcccagc cgaggcaggc gcgatcacct gagactagga
141781 gtttgagacc agcctggcca acatggtgaa accctgtctc tactaaaaat acaaaaatta
141841 gccaggcgtg gtggcacgga gtctttgtct tgctgtggga tcagctgtaa tgttaccttt
141901 gtcatttctg attgtgctta ttgggttctt ctctcttttt ttttttctttg ttaatctagc
141961 tagtggacca tcgatcttgt ttatgctttt aagtttagtt cagccattgt ggaaagcagt
142021 ttggagatgt ctcaagtaac ttaaaacaga actaccattt cactcagcaa tcccatgact
142081 gggtgtatct ccaaaagaaa ataaatcatt ctaccaaaaa gacacatgca cttgtatgtt
142141 cattgcagca ctattcacaa tagcagagac atggaatcac ccaacagacc caccaagacg
142201 ggagaagata aagaaaatgc aagccaagta cacaagagac cactatgcag tcataaaaaa
142261 gaacaaagtt atgttctttg cagcaacatg aatgccgcag gaggccatta tgcgcaagtg
142321 aattaataca ggaacaaaaa cccaactact gcatgctctc acttataagt aggagctaaa
142381 cgttgggcac tcacggaaag atgctctcaa tagaaactgg ggactactag agggggcagg
142441 gagggagagg gacaaggatt aaaaaaccac ttattgggtg caatgctcac tctctgggtg
142501 ctgggatcat ttgtatccca aacctcaaca tcatgcaata tactcatgta acaaacctgc
142561 aagtgtatcc cccaaatcta aaataaaagt tgaaattata aaataaaata aagtatctct
142621 atagacaaaa taaaaataaa gttatcaggt gaaaaaaaaa gccctgaagg ccaggcacgg
142681 tggctcatac ctgtaatccc agcactttgg gaggctgagg tgggcggatc ttgaggtcag
142741 gggttcgaga ccagcctgac caacatggtg aaactccgac cctactaaaa atacaaaaat
142801 tagccaggcg tggtggcgtg tgcctttaat cccagctact tgggaggatg aggcaggaga
142861 gtcacttgaa cccaagacgc ggaggttgtg gtgagccgag atcctgccac tgcactccag
142921 cctgggcaac agagcgaggc tccgtctcaa aaacaaaaat taaaataaaa ataaaaataa
142981 ataaaaattt taaaaaagcc ttgtagcggc aagagacgtg gtttcattct attttatggc
143041 tgaatagaat tccattgtct gtatgtacca catttttaa tctaatcatg ttctgacttt
143101 taaatgactg caaaataatg tgtacacgag gacacagagt gtggaataat agacattgga
143161 aacttggaag ggtaggagaa tgggggtgag ggaagataaa ttacttaaaa ggtacaatgc
143221 atgttattca ggtgatgggt acactacaag cccagacttc accactacac aataaatcca
143281 tgtaacaaat ttgtattaat acttgtactc cttaaaggta tacaaataat aatttaaaaa
143341 gtaccgtatc tgatattttg accttcattg gcaagacttt ctttgtctct tcatcaacct
143401 atcacgtata gttgaataat aatcatggaa attcaaacca aataagattt gccctttac
143461 ttgtcacaat ggctaacatt ttaaagtgaa aatactcatt gctggtgaga ttgcagagag
143521 ttgggcatct catttgtttt tgttaggggc aaaaattggc acaaatattt tgaagtacaa
143581 ttcagaaatg tgagtcagaa gccttaatag gttcataatc aataatttca agatttggat
143641 aataaagtaa tctgagatgc aaagaaagac ttacgtacaa agattaattt cagcattgtg
143701 aatatgagca aatcttgaga agagaaactt aaaggcttat cagtaagaaa aaagtaaagc
143761 cagccacatt cccatgaatt agtaggtacc cttcaaaacg atactttcaa tgagcattta
143821 atgacagaag aaaatgattc ttttttttttt ttttttttgag atggagtctc attctgttgc
143881 ccaggctgaa gtgcagtggc acgatctcgg ctcactgcaa tctccacctc ccaggttcaa
143941 gcaattctcc tgcgtcagcc tcccgagtag ctgggactac agacgtgtgc caccacacct
144001 ggctgatgtt tcgtattttt agttgagatg gggtttcaca ggttagccag gatggtggtc
144061 tcgacctcct gatctcgtga tccgcctgcc ttggcctccc aaagtgctgg gattacaggc
144121 gtgagccacc gtgcccagcc ctggcagaaa atgattctaa tatgatacaa agtgaaaaga
144181 gcagaagaga acattcttga gcatatgatg ctgactgtga acatgtggaa gagaaaagac
```

```
144241 tgggttgatt ctgtgtgaca gttacaagcc cttcttgatt tatttttttg ttttctacag
144301 cccacatatt tctattgtaa acatgcgtat tctacccacc ccactccccc agttactcag
144361 gaaaaaggag acccatgtgc catcctcttt ctgggaatct gtgatgtcac caaaggatct
144421 ttgctggagt atggagtgag ttgcatgatg ttttctngca agaggagtct tccctagtct
144481 ttcaaaacag gttgctgact tcctgatgtt ctgggggtgt gtgtccaaag gggcagcctt
144541 gctngaggaa gcacccccctc agaatgttct ttcgccgacc tctcatcctg tggtttctcc
144601 cgggatctct caccaggtct ttctctctgt cccccatgag gacttttgga aggtgttgtt
144661 ctcttgcgtg ggcattacac tcctgatgct cctgattgtg ctgttgcagc gcaggcttcc
144721 tttcagtgtt tgaccagcag atacacccac acagatgtgc acgcagaacc tcagcattgc
144781 cctttatgaa tatgcagagt tgtatagctg ccctgccact gggtctggca gtgggtcctc
144841 gtcactaagg aagtgaccct ggctttttgc tttgcatgaa taacaggaag gggcctcaga
144901 agaggggatg aagtggccat tctgagcagc accatctacg tcagcagaaa ctggaaagcc
144961 gagacccatg gagaagctgg gaggagttgc cagagagagg aaaattccaa accctgccca
145021 tcttatctgg tgaggaccag cccctgagtc tgtttctgct tgctgctaga ggctgggcac
145081 tgggcctagg aggtctggga agacacagtg aagggaaggt gctttgggag agagagagcc
145141 gtgatgaggg ccaggtctta ccaaggatgc tgtgcttggt gggcatgacc tagtgtggcc
145201 tttcaaacag aaggaacaca tctctcgttt gagatggtat cttttgcttt ccccatatcc
145261 ttaaagtaga agagttaact catgtggtct gtgctgacag ggagttgccc agactctaaa
145321 cagatcctaa gtcattagca gctgggtgaa tggaaatgag gacttgggga gaggggtatg
145381 caccctggc tgccccagca gtggggagag gtgtgccaag tcattacact gaattgtggt
145441 acaggtcagg ggtccaagca caggctgtgg actctgttag aggctcagtc taaggctgat
145501 atcagcttnt agcctttgnc tagggccagc cctgtgtctg tagaggaggt agtggcttaa
145561 tctaaggcca ttaccgccct ctatcagtga ctgaggcctg cagctgacat cagggcctat
145621 tgggtggcca ggttagagtc aatgttcttc ctcttattct aaaagactca attggctcag
145681 taggagaggc acaagcatta tctgctggac tctgccttgg tgtcacccct gagaatgtgc
145741 ctaaggaaaa ggacaattct aagaagccga ggactcagaa accaaacttc ccatacatca
145801 gtgccccagt tgccactgcc cttcctgcct tcccatcccc cagtccagcc ttgctagcac
145861 cacctcatct cccgacccac acctgtgagc ccaggctggt gtgtgatggc agaatccagt
145921 gagggggtgt cagatgctca ccccggggaa gctcacaatc tgactgggca ggtttgggac
145981 ctgtgggaac aagagcagtt ccatacacca tggccctgat taggagcctc ctgtgctctg
146041 aggaggggca gctccagata gctggggcag ccaggggga cttcctggag gaggtgacgt
146101 tggcactgac tggtaaaact ctggcaggca gtaaggccag aacccagtcc tatcaagaga
146161 catataaaaa cctggcacta ccaaaagcct tttctagatg ttacttgact tcaggcacaa
146221 tattttgata gtttccacat aggatgaatc tgaaacatat gcattaactt ctccttaaag
146281 atatacactt gtttcagtta gcaagatgta acatggggtt tgatgaaagt acagtaactg
146341 aagaactgtg tgggatccaa gactgggagg tctcagaagc tacagtgtca ctgtgtggga
146401 tccaagactg ggaggtctca gaggttagag tgtcactgtg tggaatccaa gactgggaag
146461 tctcagaggc tagagtgtca ctgtgtggaa tccaagactg ggaggtctca gaggctagag
146521 tgtcttgctg tctgtacctg gaagccgctt ctccagttca cacacagcag ggacctgaga
146581 cagncattac ctgccccagg tgctcttctg aagatgttct agcacccaaa agctcaagtc
146641 caaagtcagg ctggatttta atgtgtttct tctactacag aggatgcaga cacaagctgg
146701 gtctaccctc actaaggagc tcatggcttg gaaaagacag tgaagctctg atcctctaaa
146761 tttgtttggt catgtttatt ctcatcaaac ctccccttct tcccttgagt ctttctgatg
146821 caggtggtcc ttacatccca cactgagata gtctagctac acttctatta atccgcacta
146881 caaagagatt tttgtgagga ttaaggtttg gtattgctta accacagacc tgagatgaat
146941 ccagacaccc ctttcacaac tggtatgtca cctgccttac tttggcatgg aaatggccct
147001 ttgaggtggt gccctcagat ctccgtcact gaatgagggt tcttcctgtg gacagggtga
147061 tgtggaagaa aacggccact cttgcaagca tgtgtttgga tgagcaattt ttcagaacac
147121 aaatgccacc aaagtttgtt gacaaagtga atcctgcggt gtgaggtgga aggatatctc
147181 actgcattag ttgcctacta tataaaaaaa gttacaccaa agttaatggc ttaaaacaac
147241 aatcagactt tatgatctac catggtttct acgggtcgag gtttgggaag agcttgggtg
147301 tgcagttccg gctcagggtc tctgcagggc tgccgtcatc tggaggcttg actggagcca
147361 gaggccctgc cttcgatgga actcactcac atggttggca agtcggtgct ttgctgtgat
147421 ctaaatgttc gtatctcccc cgaattcata cgttgaaatc ccnggtcctc aaggattagg
147481 gttaggaaat cctaaccctc actgactgga ctcggcccca gcagcagctt gcacagccct
147541 atcagtctca gccactggct ggtggtgcca ggagtgtcca gaaatcctcc acacaacccg
147601 aggttcagcg cggggatact gagacccgtc acctcagggt gatttttta gaaggtggag
147661 cctttgagag gtgattcagg agggcttcac cttatgaatg ggattaatgc tctcataaaa
147721 gaggccagaa agcgactcct cttcccttct ggtgtgtgaa gttacattga aaagatggtc
147781 gtctgtgaac aaggaagtgg accctggcca gacattgtac ctgctggggc tttgatcttg
```

```
147841 gacttccagc cttcagaact gtgagaaata catttctggg ttttttttt ttttttttt
147901 tttttttag atggagttac actctttgtt gcccaggcta cagtgcnagt ggaacgatct
147961 cggctcactg caacctctac ctcctggatt aaaacaattc tcctgtctca ccctcatgag
148021 tagcgtgcaa ctacagcccc actccaccac gcccaactna attttggtat ttttagtaga
148081 agcaccggct ttcacattat ggtcaggggc tgatataaaa ctcctaacct cagctcatcc
148141 acccacgtca ccctccaaaa ctgctggtat tacagttgag acacaccccg cccagcaaaa
148201 tttctgtttt ttaaaagctc ccaagccaaa gttattttgt gatagccacc tngagcggat
148261 ggagacagtt ctgggtgtgg gcaggggggct tctgttgctt tccacgcaag canatgcnca
148321 cnaagactac tagagtgtcc tcataatatg gtgaggtgca ggtgtaccca acagctccga
148381 agagacagcg accatcgaga acgggccatg atgacgatgg cggttttgtc gaaaagaaaa
148441 gggggaaatg tggggaaaag caagagagat cagattgtca ctgtgtctgt gtcccccaga
148501 gggagtgatt caaaggaggg agatggaagc agtagtgtct tttatgacct aggcttggaa
148561 gccacatatc attacttttt ccatgttcta ttggccacct aggccaatct ggtgtgatgt
148621 gagagggaac tgcacaagcc acgaaaccag gcagtgagga aaccattgca gaggctagag
148681 gttccattac caagtaactc acacgcatcc aatccagctg gacatcccgt ggtggcagta
148741 aactactctg ttcaagtcac ctgcagagat ttcccactca gagagggccc gctgggagtg
148801 gtcttccacc ctgagaccac cccnacaatt tataacatgt cacattacag tcattagtca
148861 ctgagtcact aagggaatgc ccaaatgctt ggtgagatgt gaatgatact tgagcaccga
148921 ggagaaaaaa ggcagagaag ggtgatgggt taataggggt aatagtgatg aattaggagc
148981 cagaagacct gggtcctact cagtaagcca gtgggcactg cctgtgtgcc agtgagaaga
149041 acactctcag ttagcagagg tctaggggga tgctgaagtg ggtggttctg gagttagata
149101 actggtcacc tgctcgccaa cggactgact gtctctgagc tctgcctctt tatatggaca
149161 gattgcctga tgcgcaccgg tgatcagtga gtgctagcta ctattattgg agggttatta
149221 tgcctacaat aacccagctc tcagctcagg ccctgtgcca tgtgtattcc agaaattatc
149281 ttactaactg tcccagcacc tctcaggatt caacttccat tcccaccatc attgcccatg
149341 ggcancaccg tggctgccac agccacaggc acagggacat gggccaattc acatctttca
149401 gaatgtgggt atagatgcag gtgagtcgga agatttgtgg agagagaggg gatgatccag
149461 gcttgtctgg ttgcttctct tttctctgtg aattcaaaag caaggttgtc agcccagaga
149521 gggcctgaga atttgtgctg ggccaagatc agaggcaaag ggaatccctt tgtctggggt
149581 gttatttctg cacaaagaac ctctagggcg aggcccaggc caacagcttc attaatgcca
149641 cattggaaaa gtcctccaag catcccgcct tttggagctg ggcctgcaaa gcgcttagaa
149701 tagcacctgg tttgctgtgg ttgctgctgc cgtggcggct gtagcggctc tcaccccgac
149761 cactcctctt tgcttccttc agccaggaga tggggatact gtggggtgta gcacacaggc
149821 cacgtccagc aggtctgcag caatggcaat gaggctctgc tgggagtcac tgaccgaact
149881 cggcaccagc agcatcctgg acaacccgat cagagtctca tctgcaggct gatggtgcca
149941 ggagtgtcca gtagtccttc atacaacctg aggttcagca cggggatact gagacacagt
150001 gagaaaaaga gactcgtcct atataccaca aagagcctgg aagaattgag gctaaaaccc
150061 agagcacctg actcccctga ctggggctct ttctaccact cttcattgcc ttttcttcta
150121 tgcatatatc caggctgtct ttgtggagct cccctgacat ttagcttctg ctttgattga
150181 tatcttatct gtgggcatgn ctggtctggg ccccagcagc ctccatagaa gtttgagccg
150241 taacattcct tgaagatata atacaagtta agaaccaggc ttgtgttaag tgtgggatat
150301 taccagtgaa tgaggcacgt tcagcctcta tcccagagaa ccccaaagag cagtatgtga
150361 ggcagacggt gttagacaag gccaaaaaan acaagtgaat tngcaatacc caaaaatgag
150421 ggcagtagca ggagcatgga tgaggcatgg tgagagcccc ngtggggtgg gtgaggacac
150481 tgtccttggn agaatctgtg aagtcttgcc caggaggtga cccctgagtc atcagtgaag
150541 gagagatcaa ccttgttaga tgtgtggcct cgctttgaat gcatgactta agtccacagt
150601 gcctcagttt ccctggctat aaaacaggga ataagaacag catcctcctc acagtgttat
150661 tctaaggatt aaaaacacct atgacatgct aagcagggga ctggcacata gtaaacgctc
150721 agcgagttct gattgttgat gctactgtta tcacagaggc ccctagtggt ccaccaccag
150781 gggatctttt cagaagccaa gggaagggct agggcagaca gcactgggca tattgaagag
150841 aaagggaact caagaagcct gaaatatgaa gccaggatca gtggaggcaa aatccattct
150901 cagtagaggc agaatccatc tcattatcat agctggccag agaactgggt ccctcctaga
150961 gtggtgagct ccccgtgact gaaggtgtgc aagtagatga tgaggagtta cttggtagag
151021 atgtggaatg tgcgtgtgag tgcaggaatg tattcgtgtg tatttgggcg gggggtgat
151081 tttcttcccc agaaattgtg gcttttcttc ccctgaatct cactgcaatt cagggccctt
151141 ccattcatga ggatctattg ttctatttct aaatccctga gatccagcac caaagggcca
151201 ggttaagctg ggcttctgac tttatcgcag gctcacacaa tagccatgct cctgccagct
151261 tcactgggga gggggactg aaaacctttg tgggtaatcc acagctttag ctgactgagg
151321 ggcaggtatt aattaaagtg cagattaact gtcggtcatg ggtatcagca ccgggactta
151381 gaattngctt aatacgagag tttgttacac tgttttgccg tgagaaggca atattgatca
```

```
151441 ggaatccctg gcctggaact aattgaatat tcacctccaa attgcaatgg ctgattatgt
151501 agaaggtcat ctcttttatt tttacttggg aaattgcaga gaggttggca cacagtgaaa
151561 gaggagaaga agccgaagag ggagggagag gagagagaga gagagagagg tagcagggga
151621 gaaaaagaat gagaatgaga tagggaatta ttatttttctt ttttggcctg agaaatcaga
151681 tatgacaagc cggataacat cttcatcttg aaacaacttc ttatcccttg gagaggagct
151741 tccttgttgt ccaagttaac caggaagtgt ttgcagtact gtaattttaa tgaaggaagc
151801 tttcagtatg ttaatcgtgg gaatacacga atatgaattc attactctct gagccgtctc
151861 ccgccacatg gtagtgtgag gaactatgat aacatgcttg taacggtgtt tttggactcc
151921 tgcagcttct gagaaagggt aggatcctgg aaatgtctgc aggagctgaa acaggaggaa
151981 atgggtctcc gcggggggtc tcangggctc tagagtcctg agctgtctca aggtggnccg
152041 aaactggacc ctgaagtgtc tagaagggtg gtgttcccct tctgctgact tctgactgca
152101 agccaatggc ctgcccgcct tcctacctct agcacagaca cagatgggtg cacacaccca
152161 gactttggtg cacacacatc ttacgtcctg gctgacggtc agagagtgag gaaagtgatg
152221 gcgaacacac aaaccagggt gactcaggct gcagaaaaac tgttccaatt gccccgtggt
152281 gaggactgca aactccatcc catttgagag tgggctccaa agctgggcat gaagtcaaca
152341 tcaactggtg gagacgggtg aagatattcc aaggaaaagg tgcacagtca aaggcacaag
152401 aaacaatgtg ctgtgttcca aagacatcaa ggatcttgat ggagtgaagg tgggtgtggc
152461 tcagcgtggg gctggggcct ggaccgcaaa gagcctcaac gtttagactt tgccctgagc
152521 gccatgagga atcactggag gttttgctgc aggggagtga tggggcaagg ttataggaag
152581 accatggatt tggaggttga ggaaggagtt ggaaggagac tcaagctagg agaccactga
152641 ggaggtaant tacaatatcc aggggncaag ctgacgaaga tccgaaccag agaagtgact
152701 tggggtgggg agaggagggc tgttgttgga agaaggagtg gctttgattg ggtgggagga
152761 tacgaggatg agagaagccc aggatgacat cagtgactta ataagtgagt ggatgatggc
152821 actggtgaga tgggaacaca ggatcagatg catatttggg gagaaaatgg aacatgaagt
152881 cttggctgtg ccaagtccta gaacttaaga ggtgcccagg gcagctggat ctacaggcct
152941 ggtnatttag gggacagaca caggtatggg ggtcatagag acagatttag caattgaggc
153001 ncaagtgaga ggaagctata tgatgagcca ggggagtgtg agagtgggaa gcccaacccc
153061 gaaaaaacag caccccttaa ggcaaataaa aagcacccag ggactgagga gccaccatcc
153121 actatctagg ccatatccca aggagtgagc ttaatgaaag gcaactcact aatagtagcc
153181 agcattcact gatcaccagt acacatcagg taacctgtcc atacaatgga ggacaactga
153241 ggcaagggga ggaggagagc atagggggca gcatcacatg gggcagccgg ctggggaagg
153301 cctgtctgag caaggaagtt tgagctgaga cccaaaagaa tggaacaagt tagccacggg
153361 gctgtttgga gaaagcagat gccaaaaaga agtggcactg agtacaaagg acctggcagg
153421 tgcctgcttg ttgagttgat gaacagtgag aagcccagtg cagtgaagtg gaggggggagg
153481 ttctgtattt gtctatttgg catctggtat ggtttggctg tgtcccaacc caaatctcac
153541 cttgaattgt agctcccaca actcccacgt gtcatgggag ggacccagtg ggaggtaact
153601 gaatcatggg ggcgggtctt tcctgtgctg ttctcgtgtt ggtgaataac tctcatgaga
153661 tctgatggtt ttacaaagaa gaattcccct gcacaagctc tcacttcacc tgcntgccat
153721 ccatgtaaga ggtgacttgc tcctccttgc cttccaccat gattgtgagg cctccccagc
153781 caggtggaac tgtgagtccg ttaaacctct ttccttcaca aattacccag tcttgggtat
153841 gtctatatta gcagcatgag aacagactaa tacagcatcc attcatcaca gggctgattt
153901 aactacattt tcctattttc tgtatcgatg ctctggcatt tggggatctt acaggcccaa
153961 gaagatattt cccttctaag ggctatccaa ctcttagaga aagcaaagga cacagctggg
154021 agcatgtctt tcatctacaa accaacgaat ccagagtctg agcccccagc catcacctta
154081 cctacccgca cacacagggt cagacttccc ttgtcctaaa tcatccaaag gccaggtcct
154141 gggcaactcg ggaactccct tgagcccaga gcctgagaga attattcaaa ctagccagct
154201 tgaagcgact tacctggccc tgccttngtt tttcccaggg aaaccctagt cacggctgtg
154261 acccatgcct tcccttgctc ctgcttttgc ctcctgacca gcgctggttc ttgcccctgt
154321 agccctgntg tggcacgctg tgctttggga attgggagga acattaaacc tttctcccag
154381 tggagtcgaa ctctccatgt catccctcgg tcaccgggcc cttttaatta tttggaagga
154441 aagcaccggc gattgctctt ctgcaaaggg acaaatagcc ccaagaggaa aaggggggtga
154501 atagtggcct cctggctgga gtggggcaca ggtggggaca gaggaactca gaggaagagc
154561 agaacagaca caggcatcca cgattcctgg cacaggcatt ccggtgtctg ggctggcatc
154621 ccggggctgg atccaaggcc atgacccagg taagaagggg gcttctgtat gcacaagggg
154681 ggccaagttg agggccatgg gacttacgtt tctgattctt ccctgtgttt gggccaaggc
154741 aactccaaca gggctctgct cctgccagtc acatagactg ggggaagccc gggtagaaca
154801 gggaattcta atgagtttgt ctgggagaat gctgagtctg ggcttggcag agaggccctg
154861 ctcccagaga gtgccacctg cacccagaaa cacttctggg gtcaaggtga ggaatgttct
154921 cagctgggac agtttagggc aggtggacac agtatgcctc tgtgtcatct agaantgagg
154981 accctcactt gggggacaga ttagaaaaag ctgcagacac agcctctcag gggcaatgtt
```

```
155041 tgccaaggtg ctttagggca gaaacaactg catcccctcc tccaaccaac ttgcagccca
155101 gcttgttgag cagaatgggc agagaaggac agctgacctc agaccctac ccccagggag
155161 gtttcccact cctaagagca ggaaattgcc ccagcctaag ggacaggcag acactgagtc
155221 cgtttcagaa taacagaatc tgcctccgtc tccagagccc cttgctccct ttccatgggt
155281 taaccacaca agacccacac ttccagctgt tgaagaattg gtgaatgcca cttgagaaac
155341 ttcaggcaga ttctgggaaa tgctccccat ccgtcagcaa aaagtggact gctggggata
155401 cgcagagtcc agttagctgc cccccatccc ccctccccca aaatngcctt ggatgataaa
155461 ttcgacgccg gaaaaaataa ataaatctgt gggtgtgttt ccccctcgagg atctgccacg
155521 ataaaattgt aatgaatgag aatgtttctg ggttatgtgt tggaaaatta gcacaggctt
155581 gcnattaatt gaaatttagt tctttatgta tatcaattcc cttttatcct tctgggattc
155641 gcagcagtga gaaagacact gagcaacaga ttaatccaag tgttgtcagc gacaatgata
155701 aattgaggtt taaaagccta cattgagata aattactatt aaaatctagg cctcccctct
155761 cctgttaagt ctgtagaacc aagaatttgt taaaaattct tggcctttca ttaagctcac
155821 tcctcctccc cttgcctcag ttgtcctcca tctctttacc acttggcttg attttttttt
155881 tttttctgag atagactctc actctctcac ccaggctgga gtgcggtggc gtgatctcag
155941 ctcactgtaa cctcctctcc tgagtagctg ggacacaggt gtgtgccacc atgcccagct
156001 aatttttttgt atttttagta gagacggggt ttcaccatgt tagccaggat ggtcttgatc
156061 tcctgacctc gtgacgcacc cgcctcagcc tccgaagtgt tgggattacg ggcatgagcc
156121 actgtgcccg gccggtttga tttattcatt gtttatgtct actagaagta gggtgggaca
156181 gggctgggtt gaatcccaga ccctttgaaa gtaactggca tatagtaggt gctcagaata
156241 tgtgtgttgg atgaattata aaacggcagc tcagcttcag gtttcttgcc tgcaaaatgg
156301 acatagcaac actcacatct caagactgtt gggagaataa atgaggcaca aagtgggaag
156361 gctgtcccca cgggtcctcg gaagactaag agggcagatc ccacccccct cactggcccc
156421 ttcagagaac caaggctttg gtgtctggct ctggggagtg tggctctgcc actgtgagtg
156481 cctgcaggca gctcgagccg cgcgctgcca gccatgatat ttcacaggtg ctgcctctgt
156541 ttgccttaaa catttcaggg tgcagcagaa acacaccacg acgcaggaac gcatagtctg
156601 ccatgtgaag ccaagcatga gctggggctt ctgaacacat ccttacgcgg agactgcagt
156661 cattagtata attattaggg aagttaacca ggctgggaac ggcacattga gcatacactt
156721 aaacagaacc tttaaaaaaa agtgggtgga aaagtttgcc tgctcggctt tctccttttt
156781 ttagaactgg gatttcaagc gaccaacata acatacagga aaaaggacag cctaacgccc
156841 accaaaacca accccgacgc caacacgcca aatcgataag agccccatcc ccatactagg
156901 gtgaaaccca gagtttctga gattctcttg ccatcaatac ctggctggtg accaaggctg
156961 ctaattccac atccttagta tttcccaact tggtctgctg tgcccatcca ctgccaccat
157021 cccaggcgaa tctgcatctc cctggatgac agcattgcct cctaactgcc tcccaagccc
157081 atatcttcct gttcgccttt tccttaggct gtgttctccg gaagcaggtt ctgatatgaa
157141 gattcctgtg aaagacatgc attaggaaac gttcccagga taaaccagga ggtgagtgga
157201 gaagtgagat tgggaaggga aggggcccag gaataggagc acacagccca cataggggaa
157261 ctcagtttag tctaacagta gacagggtcc atcatgcctc agagctggcc ccatcagggt
157321 gaggaagctg gagtatttat acctgatgac ctcaagtatg ggttaggcca tagttctcaa
157381 actgtgtgcc aaggncagat gccgtggnca tattttaagt ctttaaggga aacaccgcaa
157441 cagctgccag acaccactcc tgagacagtt cacagtttca acatcagact gcncctgcat
157501 ttccttggct gatgtcacat ctttgtgaag ctgagtgtta agcagaagct gtgacaaaaa
157561 ggaagtactg aatggaaatc agangtagag caggcaatga gggtggtggc atccaatgtg
157621 attctgagaa ctgaaaagtt gtgcagtgcc caacaggcac acacatccca tgaataagta
157681 attgtgttta tttatgagtg aaatcaacac attcctttnc tgttttaatt tttgggtatc
157741 atatttgtca acagctgcta agttgttagg ctataaatac tagttaagct gtttgcacct
157801 tactacataa taaatggaac tgttaggttt gttttgtttg tttgtttgtt ttttagccta
157861 ggaatgagtg ctgtgaaaaa ttactgagtc tccaagggct tcatgaactg tggaagttct
157921 ggaacctctg ggttaagggc tgcccctggg tggatgtaaa tttccaagcc ctctggctct
157981 tggtgctaca agcaaagggg cctccagcag cctgaggaca gccctctggc agaaaatcgc
158041 aggcgtgggc tgctgggagt gaaggtgccc caggagccag tgtgcagggg aaatggcaaa
158101 ggcgagggtg gatatcggca tctgctacgc tagcgcttct gaaactgcaa catgcacaca
158161 aatcacctgg ggaccttgtt caatgctgat ttaggagggg cctgagagtc tgcttttttt
158221 ttttttttttt tttgagacag agtctccttc tgttgccnag actggagttc agtggtgtgg
158281 ccttggctca ctgcaacctc cacctcccat ngttcaagca attctgcctc agcctcctga
158341 gtagctagga ctacaggcac ccgccaccaa gcctggctaa ttttttttgtg tatttttagt
158401 agaggaaggg tttcaccatg ttggccaggc tggtctcgaa ctcctgacct caaatgatcc
158461 acccaccttg ggcttccaan agtgctggga ttacaggcat gagccactgc tcccagccaa
158521 gagtctgcat tctttaatat gttgccaggt gatgctcctg tcactagtct gtggctccca
158581 cttgaattag ccagagctat atcccttgtt ctgcctcctg ggcccacaca tccactggtt
```

```
158641 tccctcaatg gctctccagt ccaagcctga tatgggcttt gtggggaagc cccagacccc
158701 gccccagctc tgagccccac gcagactgag caatccaggt tcagccctgc ttgcagcctg
158761 aggagactga gtaacaagac ccctgcccgt agtcagccaa ccccctaatt actctgtttt
158821 cttccagaag tctaagggct ctggactcta tgtgacaagc ataggtgaaa ctggggagac
158881 aaaaggcacc acacaactga acactgagtt tagaatgccc cgacagtaag ctggcctcct
158941 gggaccacaa gctgctgggc tgggaaaggc tttggacacg ggctatagcc cagccccatt
159001 ttagcagtag ggaagtcgag gcctagagat gaacctcaga gctgagactg gaagtcaggg
159061 cctcagatcc tacacccagg acactggcta ttccctgtga ctgccaagtc cagtttaggg
159121 tatcttgagc tccagacgtt ggaagtaaac tgcccccaga tattaatagt gctattcccc
159181 actaatgttc caagagttga agttcactga taagatcttg ggggtgcact gcatgaaata
159241 tggtggggaa tgctgtccca aaacgtggaa tccatcctgt cttggacgtt ggggcacagt
159301 catgccagaa gctggaaatg agtgaacagt ttcattggcc ccgggtggac agagagcaag
159361 cattgctgct gaatctggtt ccgatggaga ggagtagttt ctctccttgg ctccccaccc
159421 agtcttcaaa ggtccacagc tgtcgtcttc cagagtaact accgctgcag caagtgcacc
159481 gagcaagcat cctaggcccg attttnctcn ctgaggtctg ctaagtcttc caggcttctt
159541 tatccatgct acctacatct tgagacttga gctcagtgtg tcactcacag aggggacaga
159601 ggaagagctg tggtgtgact gacagcgggt tttagcattg caaggatctt agtatgaacc
159661 tggncttcag ctctccacta gctatgtcta caaatggtac ccttactccc atttcttgac
159721 tcctggtgtc agaatgatgc attcataccc tttgcaatgc gaccttacaa gatctctcaa
159781 tagaagaggt gaaatatctt tccctctccc atagatgtgg gtcttggcca agaaactgtt
159841 ccatatttgc atgtcttggc ttggaatctg gctcttttgc catctgccat gagaggaatg
159901 gagtgggtaa ccactggtcc caggagaatg agatccttga aacagcccaa cccacagcct
159961 ggagcccagc ccatgagagc cacggctgtc agtgagaagt aagtgcttgt tgccatctcc
160021 tcagtctgca gacagtgtgt gttgcgtagc attattgcca caatagctga ctaatggact
160081 gtgggaccct tggctagtta cttatgttca tctctgtgag atgcagtttc ctcatctata
160141 aaaaaatgag caataacact ttaccttgaa gccctagtgt gatggtttaa tgggctatga
160201 cataagtaaa gcacatggcc tggtgcctgc tccacagaag gctctcgatg aatggtggtt
160261 ttaaaaagag ggaagagtga ttccataaga gcttgatttg acaaaagggt gttgagtgcc
160321 cacagcggct ggctcggtgc cagacaccat gcggaatgga tttaaaatcc agttcctgtt
160381 acatgattca tattggcctc agacaggtct ttgggcagaa atccaggcca gattgggggt
160441 ggggcagcag gagagtctga aacctcttct cctaaatctt gagcctcact actcgtaaat
160501 gaacctgcat gttctcttcc tgagcatgag ttgactttca tgtttcttgg caacaaaagc
160561 aactttaccc atctcctgtc ccttcaccaa gagagcgtgg tgacatatca atcaaaacac
160621 actgtaccag tagcaataca agatgcatct gttgaagggg gtggtgttgg aagtgctccc
160681 caggcctccc ggatgctcct cctccctcca gctccgcacc tcttctccag aggccaaggc
160741 tctgttagca aggtgatgta ggatgttgag ccctgctcct agtaattcca gtcaatccta
160801 tgtgtggctc acatcgttca antcacttct gcaaaaatgg gcagaggagg ggtgctctca
160861 aaatggccca ggccccactg gctctccgca cccttgccac ggttgccctc ctaatggctg
160921 tgagcagagt gtgtgggaag tcagtttctg ctggactcct gggaggtctg ggtgggctgc
160981 ctgccagccc cggcggcaac acagctggga caggtgggag ggtgctgaga gagttggagc
161041 angggtcgga agtgacaggt gggagggtgc tgagagagtc gcagcagggc ctgggcagtg
161101 actgactgag gcgtgggcac taaagggatg tgctcgcgga ctacgtgggg aaagaaggga
161161 aacttgagcg ggcctctgca tcacagaggg tattgtnctt cccccaaaat tgcttcctct
161221 gctccctgtt cagactggga agctaatata tgctcatttt agaaatagtc aaattaatac
161281 aaaaatatat aaagaaaaaa tttttgcctt aaattatatt ttaggcaaaa aattacctaa
161341 aatataatta ctcagaaatg accgctgtta acgttttggt gaacacaatt ccagactgat
161401 tttctgtgtg tgtgtgtggg tgggtgggtg ggcgtggtat gctgctattt acaaccccaa
161461 cagctctcta acgagggcaa gttctgtttg gtgcagagcc ggttggaagc tgaccctgag
161521 cccctccacg ggtttggata cctgcaagag tggcctatat ccaaatgtgg gggtgaggca
161581 gaaaaagaac tgaattgctc tgcttcataa agtgagaaga gcttggtgct cccagggcca
161641 atcaagcgat agagggagag caatagagct gaaaatagaa agaaaaataa aggagcaaag
161701 cgcatcccag caggaaggct ggggccctgg gtatggaagt ggtcagggga catttgaaaa
161761 gcaggggggca cctgattgaa tttcaagttg ctggctttgg tgctatgaaa agccgttcaa
161821 tggccttccc caagccttcg gagaatgctt ccaacacaca cagccccagt atgagtgttc
161881 tgggggggag acattaagaa aggggctgaa tctatatgtg gacagttgtg gtgtggaagg
161941 aaaattggaa cacgagacag tcacacaatc ctgaccttga gctaattcag cagaatcggg
162001 gaggggcggg gggcgggaag ggtagccagg tgctagagaa tccagatgtg accctgccta
162061 gaaaattcct tcaggaattc ccaaacatat gggggtcagg gggctcccca gtttgtggat
162121 ggaaggtaca agccaagctt tttctagatc taaaactaca ggctggccct agacagctgg
162181 gctatatatc tatgtttata gggttgattt aaacgaccat gttatagcac ttgctttata
```

```
162241 aatctctttt tactcagtcc tgggtcttat gatctaggct tgtccgtaag tatacgtctc
162301 gctcactctt catgtctaca tggtaaatta ttggaaagga attagcagtg tatacagcca
162361 ctcctctcct aatgggcatt taggtgattt ccaaagcttc tgtgataaca tcctccctct
162421 atttatatct tgacacatat gttgaggtgg tcactttaaa aacgggtttc agtttagaat
162481 acaaaaaaat aaccatgcaa acattacatt gctcatcttt cttcattcta ccaacaatca
162541 gttgtttgaa agcaatgcca gcgtgcccca acaagccctt caagttgcag atggtggcgg
162601 tgatttcagt aaaaattgcc tgatacacca ggctattgat gacgccacat cacaccccac
162661 tcctagcctg ggagagttaa aggaaggcag aactcatcct tcccctgacc ttgaaattgg
162721 aaccgggcct gtttgagtct ttttttttt tccttgaaaa cggagtctcg ctctgttgct
162781 caggctggag tgcagtggtg tgatctcagt tcactgcaac ctccgcctcc cgggttcaag
162841 cgattctcct gcctcaggct ccgacatagc tggaactaca ggcacatgcc accacaccca
162901 gctaattttt tgtattttag tagagatggg gtttcactgt gttgccncag gctggtctcg
162961 aactcctgag ctcaggcaat ctgcccttct anggcctccc aaagtgttag gtttacaggc
163021 gtgagccacc gcacccggcc gcctgttntg agtctnttaa cacacactca ctttacgacc
163081 atgacctgtg acccccgcta ctgggaagaa gacaacgtct actggagaaa atggattttg
163141 tgtccctgag aaacttaaga attcaggcag gacgantgcc atttggcttc attgtcaatg
163201 gcaggcagta tcagagctgg aggcttcctt agggattatc tggtcagttg tcttcattgt
163261 acagatgggg aaaactgagg cccataatca cttacttggt aaaaataaat aaataaataa
163321 aagccaacat tactatttgt attttagata tttttgagtc taaaatgtaa tagcaacctg
163381 gagaggtggg tatcttccta ttcccacttt tcagtagagg aaatagaaga ggaagagagg
163441 agacttgaac tctggtggtc tggagccaga gtgtgcacac taaatctctg tagagccact
163501 gtctcctgaa caaagatggg taggggatcc ggggtctcgg actcaaagtt ctctgctctg
163561 gccctgtcgg gagacagctc ttgggaggga agctgacgtg tggaggggcc cttggcaaca
163621 cgtctctttg tccaagtgtc tgtctgtcac agctgtgagc ctgaggggac attctaggtg
163681 gacgccgcaa atgaataatt caataaaagt gaatactttc catggcaacc ctgccagcac
163741 gtgacctgct ctgctgcctc ccagggctgg gttcacccta ataaaggaac acatttgtca
163801 gactacagag agcggactgg gataacattt tctctcaagg aaacggaaat aaaactaggt
163861 cgggtgatgg caccagggcc aaggctgttg caggagcctt gttcaaacat cctgtcggca
163921 ggtcggggat ttgtggaagg cctagcacac ctgcagtgtt gggaaaagaa ctgccctttg
163981 cggcagggga gagacagaaa gctcagtccc cgagtatccc tgaatgtgaa accctgcagt
164041 atcccacagt gtacaaagga ctcccaggcg ccaggttgca gaactcttgt catagctatt
164101 tgtggtaang taaaggacac tggggcccag aaagtgcccg ttggaactta gcctaaagtg
164161 atgtcgctgg taagtgaaaa aacttggact caggcccaag cgaggtggtc tttttactgc
164221 gtggccctga cggtctcaat aaatcggccc actgaggcac atgatatgag agctgagctg
164281 ccgaagtggg agggctgagc tataccattc attttaaata aaggtccgtt tctgggctgg
164341 attaggttga gggacaatct gggattatct ggggctcagc ctgggacagg ggttggaact
164401 gtctgcagta aatgcacctt tgggggcaga gttgagggat gaggctgaca ggagcattgg
164461 gctaagcctg ggacaggact gnagactcaa aggtcaaggt ncaaggccag ggtcgggttg
164521 ggcctgggac tagtagggtc aggctcagcc tgtctagggc atcagaatct tctctatgta
164581 gaacctgctg gaagtgcctg aatcacttcg ctgtggagtg agacaggatg aaggcctgaa
164641 gggctcgcca gnggagacgt gctaccaggt gcgagggata gaacaaggac atgctggagt
164701 cctggagggg gcttctngag agtcggggga gagcagnaaa tacactccat acccggaact
164761 gcaaggcgga ggtggtcata agctaagatg gagtcaggaa ntaagggcgg caggagccgc
164821 atgggaantg aggacagaag ttcatatgaa tgtatccaan agggcttcaa gagacagcgg
164881 tgcaagggca ggtgagagac agtcagaaag acctggtctg gnangacctc tttagacctg
164941 agctttanct ctggtcccac agggtcagag ggaaagaact tcagaagcca ttgccctgag
165001 cttcccatct ctgaggctag gagcacttac ctctcccgca cttgcactca ctgagctcaa
165061 ttccttttgg ggttccccaa accttcccca ctcactcaac cccacacccc agcaccacct
165121 agctccccga tgctgcccac gatgcccgtt ctactagttc tgctcttctc aatgaagcac
165181 ccactcctct ccaaaagtct tcattttatt cctggggctt ctctcctctt tgctagacct
165241 gttgaagcgt gggtgtgtgg gaccctgatc agagaatgag gcaaaccttc ccctgttcgc
165301 cttggctcct tatgaanctg canaggtagc ggtggagttt gtagtttcct ttngagtttt
165361 gcaatgacca gatctggatt tagggtttgg ttctgcctcc caaatgctgc agggctgttg
165421 ccttggggga cattgatgca aattaaaaac aaaaaacaaa acaggacatc aacacctttt
165481 cttcaaggta aaagaaagtg gggatggggt aaaacaattt atttatttat ttatttattt
165541 attntagaga cggaggtttt gctcttttcc cccaggttgg aaggcaatgg tgtgatctcg
165601 gcttactgca acctctgtct cccgggttca agtgattctc ctgtctcagc cttccgaata
165661 gctgggatta caggcgtgtg ccaccatacc cggctacttt tgtatttttt aggagagacg
165721 aggtttcgcc atgttggcca cgctggtctc aaactcctga cttcaggcga tccaccatcc
165781 ttggcctccc aaagtgctgg gagtacaggc gtgagccacc acgcccagcc gggataaaac
```

```
165841 aantttaaag catacccaga agcgcattat gtggcaggga agggggaaga gggaggcggc
165901 ctctctggtt gtgtcagata actgaccaca gatggcccca caagatgccc ccacctgtgt
165961 aaaggacaag gaggcaagag gaagcggggg gcagggggac aggagcaagg gccctgggac
166021 ctggggtttc attagaagca tcccacttaa attcacatga accatgttcc cttaattcag
166081 acttatttttt gtacctgtag acagagcaca ggcacctgtg ttggacgcct cttttgcacc
166141 cctttcaggc cctctgggcc ttacctgtct gtccttattc cagcctctgc tctgatgggc
166201 agctccttgg gggccctggc cggcggtgca gcctagtggc acccactggt ctcatctcct
166261 cctccaggtg ggagaccccc agcatccact tgggcacaat ccacagctgt gggagtatgg
166321 atgccccagg gggtgaacct ttgaccaaca ggggatagga gccgtggaaa gatacttcct
166381 ccttccccac tgcccactct tccccagagg cagttctgag atggaaacat ttcatacagc
166441 ttcttggtgg ccccagagaa tcaagcaacc agtctcccat aagagcggcc aagcagaaaa
166501 tgcatcctta tcttggctct cctctccctc ccnctcttca ctccatggta ggctgaataa
166561 tggcccccaa acagatccag gtcctaactc ctgatactgt gattgttacc tactggcaag
166621 gggggtttca gtcacatttt gcagatgcaa ttgtattaag aatcttgatg gagagatcan
166681 tcccagctta gctggtaggc tctaagtata atcacaggtg tcataagagg aaggcaggga
166741 aaatgcaatt acagaagaag gcaatgagag gatggagtaa gatccagtgc cattgacttt
166801 gaagatgcag aaaggggcca cataccaaga aatgcaatta taggaatgca gctccagaag
166861 ctggaaatgg caaggaagtg gattctcccc catagtctcc agagagagca aggccctgct
166921 gacaccttga tttcaaccca ctgcaactca tttggcatgt gtgaccacca gtaaactgta
166981 aaagaacaag tgtgtgtttc tctaagccac caagtttcta gtaatttgtt acagcagcca
167041 caggaagctc atccggctcc ccgtccctca cttcntgctc cctaggctca cactgtttgt
167101 gagatgctca cacataagct tctcctttgg ctctgctgtt tggggaactc agggtaagat
167161 agcatctgat taggaatcag gccccagctt tgtgtataca gatagcccgg ttctctcagg
167221 cccccactga caccaacgtg cacctgccct atccttcccc aaaaggcaat cgtagccaac
167281 tccnaagtct ggtataggat gtgaatgggg nccaccaagn agctacagca atgagagnaa
167341 gcaancctca gaagnatgac tggggcacag taagnaacct ggtacaacta catgcccgtg
167401 tgcatcaatg agtgtgtgac tcctgcactc ctgagtggaa gccttatcat ggtgtcgggg
167461 tgggtttata aaggaccagt tgctctagga catgcctcag aggcctagaa gctctgtgct
167521 cactgtgtgc tgtaatacaa attagtattt ttctacaatg taaatgtcac cttcttaggt
167581 ggcgtttcct catgcagtgc acaacctgaa caaccataca ggacacccct gatgagatgc
167641 ttggccttgg gcaaattatc ttacttcatt aagcttctct ttcttctata aaatgggaat
167701 aatcagaaca ctcccctcag agcggtatcc tgaggatttn gataattcac gtcgccctgg
167761 aataaatgcn ttaaggaata gtaatggntg ggagtgtaaa gtagttcaac cattngtgga
167821 agacagtgtg gcgattcctc aagaaccaga aantaccatt tgacccagca attccattac
167881 tgggtagata cccaaaggct tataaatcac tctactataa agacacatgc acacatatgt
167941 ttattgcagc actgttcaca atagcaaaga cttggaacta accaaaatgc ccatcaatga
168001 tagactggat gaagaaaatg cggcacatat acaccatgga atactacaca gccataaaag
168061 gagaatgagt tcatgtcctt tgcaggcaca tggatgaagc tgaaaccatc attctcagca
168121 aactaacaca agaacagaaa accaaacacc gcatgttctc actcataaag gggagttgaa
168181 cagtgagaac acatggatac agggagggga atatcacaca ctgggttctg ttgtggggtg
168241 ggggactagg ggagggatag cattaggaga aatacctaat gtagatgatg ggttgatggg
168301 tgcagcaaat caccatggca catgtatacc tatgtaacaa acctgcacgt tctgcatgtg
168361 tatcccagaa cttaaagtat aatttaaaaa gaaagaaaga aatagtaatg gcctgttgct
168421 gctattccta ttattttcat aaaggtggta taggcacctt cnagggaacc atgcttttca
168481 acattactgc caaatgcctg atctctttgg tgagatgtac tcccttaata tcagctgttg
168541 gtgggacatt atgagcctaa tgtttcttcc tccttccaag atgaagatgc aaacttggaa
168601 ctttactgag gtgaccacaa caggcaacca attctgggaa cagaagggca gcaggcagtc
168661 tttggagagc aaggtgagaa gtaccaggca ggtgaaagag caccaggagg ctcaccacca
168721 gctataagca ctgtgtcttt gttggtcctc tagaaagata agaggtgaga gcctcagagg
168781 agtgggtggc tggccaacgg tcacgcacac agctggcaag tgtgcagaac caggactcaa
168841 actgagacct cctgactcca aggccttagc cctttcctct ggtagctgag gcaatcgaag
168901 tataagagaa ggaaagggag gaggattatc gtcctgcaag ccgcctcctc cgtggaggag
168961 ctctcacttc acccctttgga cgacagccac caatgaataa aatgaaatga cagtctgtga
169021 gtgcggtctc tctttttcca attcagctac atctgccaac agcaaatatc atcatttcag
169081 gccgtgggag agctgcagct ttcgggaaac tttgtcacgc caatgtaaat ctcacaattt
169141 ccttctgccc tggcaaagac attcctttaa attacattac acacacccca actccctccc
169201 tcgtcctggc catgtatgtt ttacttgatg gcggccgtca aacacatcct gatttgattt
169261 ggggtctttg cagccatgaa gattaggtgt tttgcttttg catcccttta tgggtcagct
169321 ccccaggcgg ggggaataat ggtgagaatc ataacagctg acactgacta catgctgact
169381 ctctggccag cactctgcta atctttttgc atctaatatt ttatttaatg cctataatca
```

```
   169441 ctagatgagt ttgatattat tattagtccc acataatagg tatcttttta ttttttattt
   169501 tactttaagt tctgagatac atgtgctgaa tgtgcaggtt tgttacatag gtatacatgt
   169561 gccatggtgg tttgctgcac ccatcaaccc atcattaggt atttgtccta atgctctccc
   169621 tccccttgcc cccaccccca gacaggcccc ggtgtgtgat gttcccctct ctgtgtccat
   169681 gtgtgctcat tgtccaactc ccatttatga gtgagaacat gcggtgtttg gttttctgtt
   169741 cctgtgttac tttgctgagg atgatggttt ccagcttcac ccatgtgcct gcaaaggacg
   169801 tgaactcatt ctttttatg gctgcatagt attacgtggt gtatatgtgc cacattttct
   169861 ttaaccagtc gatcatttat gggctttttg gcntggttcc aagtctttgc tattgtgaat
   169921 agtgctgcaa taaacatatg tgtgcatgtg tctttatagt agaatgattt gtaaatcttc
   169981 gggtatatat ccagcaatgg tattgctggg tcaaatagta ttcctggttc tagatccttg
   170041 aggaatcacc acactgtctt ccacaatgat tgaactaatt tacactccca gcaacagtgt
   170101 aaaagcgttc ctatttctcc acatcctcgc tagcatctgt tgtttccaga ctttttaatg
   170161 atcaccattc taactggcgt gagatggtat ctcattgtgg ttttgatttg catttttcta
   170221 actaccaggg atgatgagct ttttttcata tgtttgttgg ctgcatgaat gtcttctttt
   170281 gagaagtgtc tgttcgtata cattgcccac tttttgatgg ggttgttttt ttcttgtaag
   170341 tttgtttaag ttccttgtag attctggatg ttagaccttt gtcagatgga tagattgcaa
   170401 aaattttctc tgaaggctca gaaacgtcaa ataatagagc cagaacttta ccagctgtgt
   170461 ccccagcact gacgtccctt cactcagtgt gctgagtcct tggggactgg ggatagctca
   170521 gccctttgtg aacagtcatc tgcctgacag ttccacaact tctggcatga aaaccggatc
   170581 tgcttccaag acccagctgc aagccaggct gctcagtaaa gagacttcca tcctaaaggc
   170641 ctggctttgc gaggccaagg gcagctggtt ctcaacggaa ggcaattttg ccccccgtag
   170701 gacattggca atgtctacag accaattgtc aagactcagg aggagggatt gctactgaca
   170761 tcaaatgagt aggggccagg aatgctaaat cttcagagcc caggacagcc ccggaaacca
   170821 agaattatca gttccaaaac atcattagtg ttgaaattgg gaagccctgg actaagggga
   170881 atgaatgggc catagcatat gattaggaga atcatggcaa gcaaatattc tgcagatgta
   170941 tggttataca aaatgctttt ctagtgcttc ctgtgttcaa agtcgggttc tcagcacttt
   171001 tcataccttc actcatccac tcctttcaat tccaaaataa atttgcagag aaaggactct
   171061 ttttggcagc cctattttat agaggaagaa actaaggctt gaaagattaa gcaattggcc
   171121 ccaaaacaca cagttcacga atggcagagc tgggattaga acccaggcag cctagctcca
   171181 gtatgtagct gtcagctctt ccctgcactg tctttaagag ctcagacttt gaagccactc
   171241 caatcaagtt caagacctgg ctctgacact tattatcagt atgactgtga gaaattgccc
   171301 aactgttctg agattcagct tcctcaacta tgtatgaagg attctgtatt ggttttctat
   171361 ggctcccata caaattacca caaacatggt ggcttagggc aacaacaatt tactctcatg
   171421 gttctggaag ccagaagtcc agaagtccaa aaccaaggtg tcttcagggc cacattcctt
   171481 ctggaggctc tagagaaggg ttcattcctg gcctcttcca gcttctgacg cttcaggtgt
   171541 tccttggctt atagctgcat aactccatct ctacctttgt ctttacaggg acttcttctc
   171601 tgtgtgctgg tgtcttctct tcttctgtct cctataagga cacttgtcat tgggtttagg
   171661 ggctaatcca ggaggatctc atattaagtt gagatcctta atttcattgt atccactaag
   171721 actttttttt ttttttttt tttgccaaat aagatcatgt tcacatgttc taggggttag
   171781 gatgtagaca aatctttcta gggatcacca ttcagcccac tacagatact aatgccaaca
   171841 tcgctgaatg agattataaa tgtaaaagaa ccggccaggc acggtggctc atgcatgtaa
   171901 tcccagcact ttgggaggcc aatgcaggag gattacttga gatcaggagt ttgagacaag
   171961 cctgggcaac atagtgagat cccatttcta aaaaaaaaag aaagaaaaaa gaaagcaaga
   172021 aagaaagaag gaaagaaaga gaaagaaaga aagaaagaaa gaaaggaagg aagaaagaaa
   172081 gaaagaaaga a
//
```

Disclaimer | Write to the Help Desk
NCBI | NLM | NIH